TEXTILE WORLD

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TEXTILE WORLD, Vol. 102, No. 2, February, 1952. Published monthly McGraw-Hill Publishing Co., Inc. (Bragdon Lord & Nagle Division). Publication Office, 99-129 North Broadway, Albany, N. Y. Editorial and Executive Office, 330 W. 42nd Street, New York 36, N. Y. Allow at least ten days for change of address.
Subscription: United States and possessions, $2.00 a year, $3.00 for two years, $4.00 for three years. Canada, $3.00 for one year, $5.00 for two years, $6.00 for three years. Other Western Hemisphere, $10.00 for one year, $16.00 for two years, $20.00 for three years. All other countries $15.00 for one year, $25.00 for two years, $30.00 for three years. Please indicate position and company connection on all subscription orders. Entered as second class matter August 29, 1936, at Post Office, Albany, N. Y., under the act of March 3, 1879. Printed in U.S.A. Thirty-five cents per copy.

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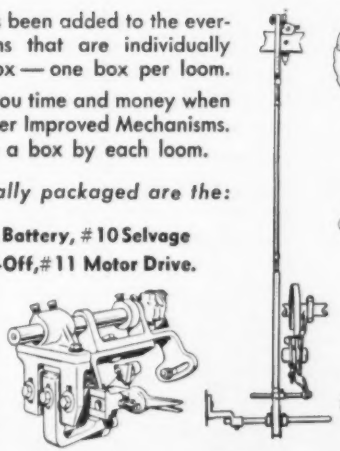

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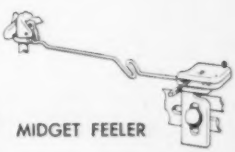

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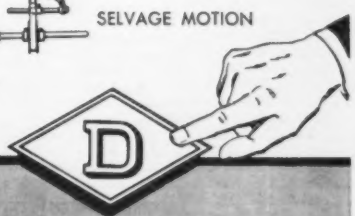
STAFFORD THREAD CUTTER



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APPLICATION	NAME	COTTON	RAYON	WOOL	NYLON	SILK	LINEN	CHEMICAL NATURE
ANTI-SLIP	WEAVE-LOK*		X		X			water-soluble processed natural resin
ANTI-SLIP	FORMASET* HG		X	X	X			inorganic polymer semi-durable
COATING								
NON VOLATILE	PLASTISOL	TEXTILES, PAPER						vinyl resin dispersions
VOLATILE	ORGANOSOL	TEXTILES, PAPER						vinyl resin dispersions
COLOR FIXATIVE	WARCOFIX*	X	X	X	X	X	X	quarternaryammonium compound
COLORS, DISPERSED	SUNTONE*	VINYL						pigments dispersed in resinous and chemical plastizizers
COLORS, PAD DYEING	SUNTONE*	X	X	X	X	X	X	dispersed pigments and resinous binders
COLORS, PRINTING	SUNTONE*	X	X	X	X	X	X	dispersed pigments and resinous binders
COLORS, PRINTING	SUNTONE*	PLASTICS						dispersed pigments and resinous binders
FINISHES								
BODYING AGENTS	SETOLE* AF	X						aqueous dispersions of thermo-setting resins
CRUSH RESISTANT	FORMASET* SN		X					methylolurea type thermo-setting resin
DULLER	ANTILUSTEROLE*		X		X			aqueous dispersion of inorganic pigments
FIRE RETARDANT	WARCONYL* A	X	X					blend of inorganic salts
GLAZING (DURABLE)	FORMASET* 10-D	X						dimethylurea-ether polymer
GLAZING (DURABLE)	FORMASET* SN		X					methylolurea type thermo-setting resin
MILDEW PROOFING	KUPRATE*	X	X	X	X	X	X	copper 8 quinolinolate dispersions
MILDEW PROOFING	G-4 EMULSION-20	X	X	X	X	X	X	emulsion containing 20% G-4. Compatible with emulsion-type water repellents.
RIBBON FINISH	SETOLE* D EXTRA		X					water-soluble alkyd resin
SEWABILITY FINISH	WARCO* A 221	X						non-ionic emulsion
SHRINK RESISTANT	FORMASET* SR	X	X					ketone aldehyde type thermo-setting resin
SHRINK RESISTANT	FORMASET* SN		X					methylolurea type thermo-setting resin
SHRINK RESISTANT	FORMASET* 10-D		X					partially polymerized urea-formaldehyde type resin
SHRINK RESISTANT	FORMASET* C	X	X	X	X		X	controlled formalizer of fibers—highly wash resistant
SOFTENERS								
ANIONIC	APPRETOLE*	X	X				X	alkyl amide dispersion
CATIONIC	APPRAMINE*	X	X		X		X	substituted fatty amide
HEAVY-BODIED	TORRIDEX*	X	X					sulfonated tallow
OXIDATION RESISTANT	WARCOLENE* 171	X	X				X	sulfated fatty acid ester
WATER REPELLENT DURABLE	NORANE* R	X	X					chloromethylated quaternary ammonium compound
WATER REPELLENT DURABLE	NORANE* W			X	X			wax emulsion plus metal salt complex
WATER REPELLENT RENEWABLE	IMPREGNOLE*	X	X	X	X	X	X	wax emulsion with polyvolent salts
GAS FADING INHIBITOR	WARCO* GFI		X					high molecular weight amino compound
GAS FADING INHIBITOR	WARCO* GND		X					mixed organic amines (non-durable type)
KIER BOILING COMPOUNDS	KIEROLE*	X	X				X	sulfonated fatty acids
KIER BOILING COMPOUNDS	COLOROLE*	X	X				X	sulfonated fatty acids
LUBRICANT (YARN, FABRIC)	WARCOLENE*	X						solubilized oil
LUBRICANT	WARCO* A 221	X						non-ionic emulsion
PENETRANTS—REGULAR	WARCOSOL*	X						sodium alkylnapthalenesulfonate
PENETRANTS—NON-FOAMING	WARCOSOL* NF	X	X	X				blend of organic esters
PENETRANTS—MERCERIZING	EUMERCIN*	X						cresylic and non-cresylic types
PIGMENT PRINT BINDERS	SUNTONE* CLEARS	X	X					emulsified resinous compounds
PIGMENT PRINT BINDERS	FORMASET* 20	X	X					partially polymerized urea-formaldehyde resin
TAR AND GREASE REMOVER	LANOLE*	X	X	X	X			detergent solution in organic solvent
SYNTHETIC DETERGENT	SULFANOLE* KB	X	X	X	X	X	X	sodium alkylaryisulfonate
SYNTHETIC DETERGENT	SULFANOLE* CP	X	X	X	X	X	X	sulfated fatty amide
SYNTHETIC DETERGENT	SULFANOLE* S GEL Conc.	X	X	X	X	X	X	sulfonated fatty amide
SYNTHETIC DETERGENT	SULFANOLE* AN	X	X	X	X	X	X	fatty acid amine condensate
WETTING AND REWETTING	WARCOSAN*B Conc.	X	X					sodium alkyl ester sulfate
WOOL SCOURING	LANOLE* B		X	X				stabilized organic solvent soap compound

*Trade Mark Reg.

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EDITORIAL AND EXECUTIVE OFFICES, 330 W. 42nd Street, New York 36, N. Y., 201 E. Coffee St., Greenville, S. C.
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WASHINGTON 4, National Press Building.
OTHER OFFICES: Atlanta 3; Dallas 1; Detroit 26; Los Angeles 14; St. Louis 8; Pittsburgh 22; San Francisco 4; London W.1; 2; Paris 2; Frankfurt; Rio de Janeiro; Buenos Aires; Mexico City; Manila; Tokyo; Bombay; Melbourne E. 4; Toronto 4.

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Member of
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THE Long-Range VIEW

"Gross Inequity" in the South

A "gross inequity" has popped up in the South. Certain communities—notably Elizabethton, Tenn., and Meridian, Miss.—are engaged in a campaign of attracting industrial plants on the strength of a thin tax loophole.

Elizabethton, for example, in three referendums has voted $26,000,000 worth of bonds to build industrial plants and lease them to private manufacturers—among them a well-known textile manufacturer. Plans are afoot to increase the bond load another $25,000,000, making the city's liability for this purpose $51,000,000—a somewhat staggering total for a town of 10,000 people.

This amounts to saddling every man, woman, and child in the town with a debt load of more than $5,000 plus interest, in addition to the normal debt of the town.

This business has two ugly aspects.

First, the whole scheme is a tax dodge in which a city government sells its cooperation to a private business to the advantage (in dollars) of both the city and the private business.

The buildings will be city property and, therefore, not subject to Federal taxes—unless Congress takes some action on the matter. The textile manufacturer expected to occupy some of the buildings will pay a rental to the city. The rental rate will, of course, allow the tenant some of the gravy that comes from escaping the Federal tax burden on the buildings. This gravy is the main inducement dangled by the city before manufacturers to lure them as tenants.

There is nothing illegal about the scheme, but there is certainly something sly and cynical in the attitudes of both the city and the tenants. The solvency of the city depends on people and businesses paying their just taxes. Yet the city is wilfully engaging in a scheme that beats the Federal government out of just taxes, or at least Federal taxes imposed on textile mills in general.

The second violation of principle lies in the fact that ownership of the buildings puts Elizabethton in competition with businesses established on the historic principle of private investment.

Several names have been applied to this type of business dealing, the most common being socialism. There probably is not a Chamber of Commerce or other civic organization in the country—including Elizabethton and Meridian—that has not warmly defended the free-enterprise system, condemned socialism and nationalization of industry, and said over and over: "Keep Government out of Business."

But government is government, whether it is national or city. It is not understandable how Elizabethton can condemn Federal government in business and yet engage in a frantic campaign of shoving its city government into business.

The gross inequity of this scheme lies in its unfairness to businesses established on the basic American plan. Mills privately owned and paying their just taxes are at a disadvantage. They must help pay for the Federal services Elizabethton and its industrial tenants enjoy but duck out on paying for. Taxes, of course, must be included in the market price of goods sold by a mill. Thus, Elizabethton—by selling its tax-exempt advantage to a mill—is conspiring to give that mill a competitive advantage in the market.

Viewed from any angle except the business it will bring to local merchants and the taxes it will bring to the city treasury, the Elizabethton scheme is unwholesome. We feel confident that most Southern communities will not permit themselves to be led into such a deal by sales-hungry Main Street and tax-hungry city officials. We sincerely hope that textile men everywhere—as members of civic organizations, as community leaders, and as organizations that carry some political weight—will resist the spread of this sly, unfair, and potentially vicious financing scheme.

O. M. Thomas

Since this editorial was written, the Governors of Massachusetts and Rhode Island have publicly advocated that their states engage in financing industrial buildings, although the Rhode Island Governor says income from the bonds issued to construct buildings would be taxed. Alabama, California, Illinois, Kentucky, Mississippi, and Tennessee already have tax-exempt schemes in effect.

If cities and states get away with tax evasion in this manner where industrial buildings are concerned, the next logical step would be to buy textile machinery and lease it tax-free to textile firms. (In late 1951, a pottery company sold out to a university and leased the works back. The admitted reason for the deal was to escape Federal taxes on the strength of the university's tax-free status.)

Unless this trend is stopped, the whole textile industry—indeed, the whole of American industry—will one day be owned by institutions. Textile-mill operators will not be owners; they will be only leaseholders operating mills on a commission, or perhaps even a salary, basis.

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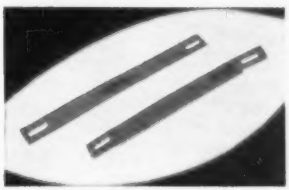
RHOADS Check Straps



Rhoads Bicut Check Straps are cut to allow the body of the strap to drop clear of the binder bolt and nut, and permit the edges of the strap to flare and accommodate the arc of the picker stick. *Rhoads Straight Check Straps* are cut from the same special tanned strapping leather as Bicut Checks.

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Illustrated above are the depots and offices at Charlotte, N. C., and Biddeford, Maine.

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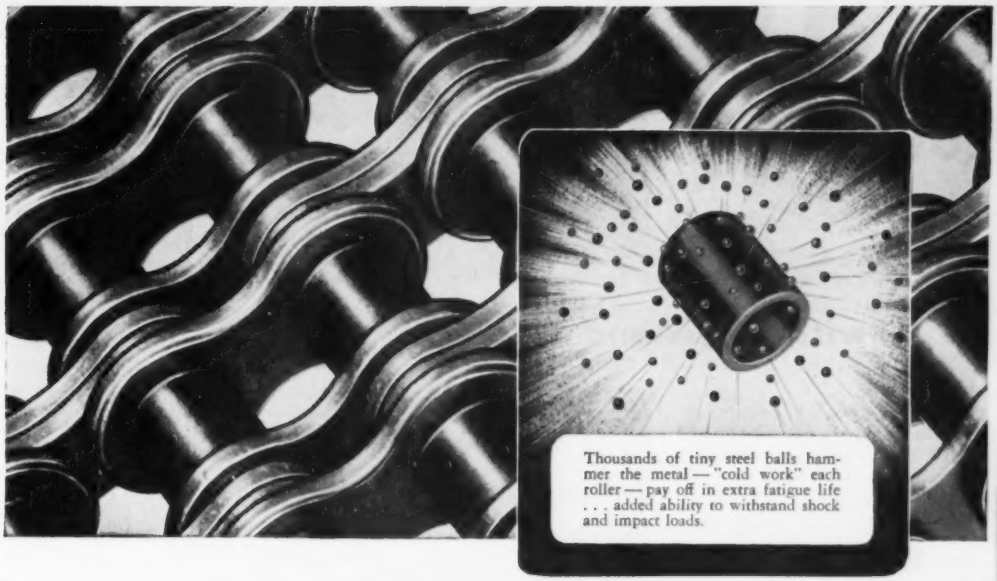

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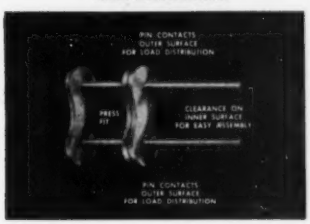
Link-Belt Roller Chain is available in single or multiple widths, in ⅜ to 3 in. single and double pitch. For the best in roller chain, get in touch with your nearest Link-Belt office.

Easier coupling and uncoupling without sacrificing load distribution


PIN CONTACTS OUTER SURFACE FOR LOAD DISTRIBUTION
PRESS FIT
CLEARANCE ON INNER SURFACE FOR EASY ASSEMBLY
PIN CONTACTS OUTER SURFACE FOR LOAD DISTRIBUTION

Patented E-Z Assembly feature of Link-Belt Precision Steel Roller Chain has won world-wide approval. Coupling and uncoupling of multiple width chains—right on the job—is far easier. There's absolutely no sacrifice of load distribution . . . no loss of the chain's remarkable performance. Press-fits between chain pins and middle bars have been modified. But full load-carrying capacity across the entire width of the chain has been maintained.

LINK-BELT

PRECISION STEEL ROLLER CHAIN

LINK-BELT COMPANY: Indianapolis 6, Chicago 9, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa). Offices, Factory Branch Stores and Distributors in principal cities. 12.320

For more information, write direct or use Reader Service post card.

How To Prevent "TRICOT TROUBLES"

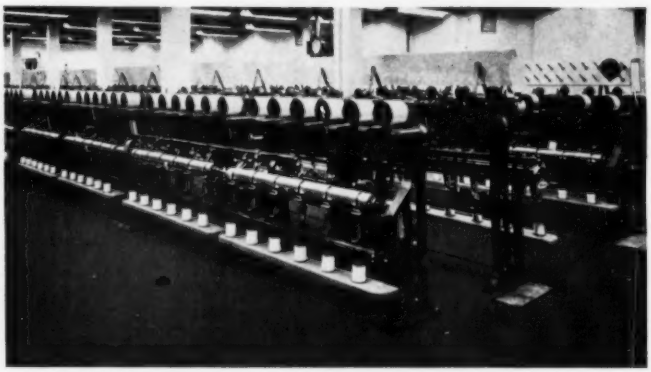
with single end nylon sizing and coning

To be sure of getting first quality yarn at the tricot machine, consider the advantages of single end sizing and coning.

Many of the defects which might stop the tricot machine are eliminated by sizing on the Leesona No. 250B sizing machine. For example:

Runs and Smashes. Sizing places a protective coating around each end of yarn, binds the filaments, and protects the yarn against abrasion that may weaken it during later processing.

Dirt Marks. The size also prevents dirt from penetrating the yarn. Dirt stays on the size coating and is easily removed with the size during scouring.



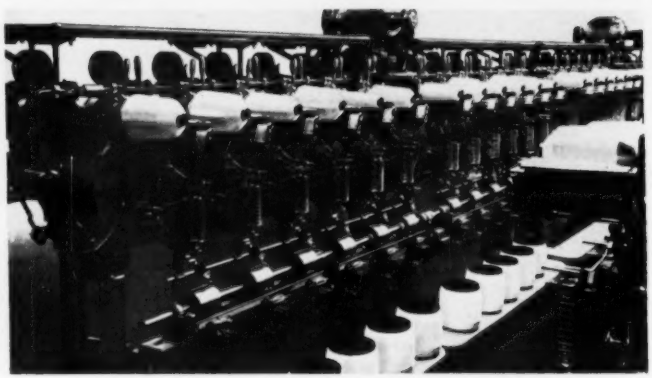
Single-end inspection by precision slubcatchers on the Leesona No. 50 pineapple coner also keeps imperfections from reaching the tricot knitting machine.

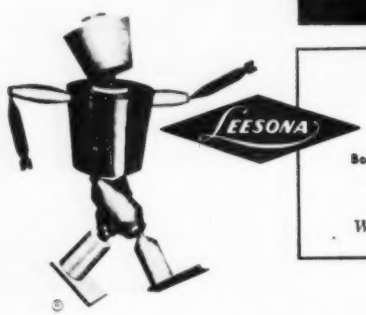
Double-ends are caught by mechanical inspection on the coner.

Static is considerably reduced by application of an anti-static oil during coning.

Barre marks and drag marks are reduced when stoppages on knitting machines are held to a minimum.

Nylon yarns processed on Leesona sizing and coning machines run better on tricot knitters.





UNIVERSAL WINDING COMPANY

P. O. Box 1605, Providence 1, R. I.

Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland

Agents in every principal textile center throughout the world

Winding and Twisting Machinery for Natural and Synthetic Yarns

You can better *every* V-Drive

with Goodyear's Line of Quality Belts

GOODYEAR INDUSTRIAL RUBBER PRODUCTS
HP -Specified
TEXTILE SPECIAL V-BELT CONSTRUCTION
to handle uneven loads, small pulleys, short centers, possible misalignment
A Multiple-ply bias-cut fabric envelope minimizes surface wear
B Four-ply cord fabric strength member for elasticity and greater strength
C Gum cushion in compression section

FOR every V-drive in your mill, there's ONE V-belt that's right—combining materials and design to handle drive requirements longest, and at the lowest cost in the long run. And the G.T.M. — Goodyear Technical Man — has developed the most complete line of V-belt constructions, each tailor-made to fit the job.

Ask your nearest Goodyear distributor — or the G.T.M. — about:

TEXTILE SPECIAL V-BELTS developed to cope with unavoidable misalignment of sheaves and other special textile drive problems.

COMPASS CONSTRUCTION E-C CORD for high speed drives with short centers and small pulleys.

MULTIPLE-PLY E-C CORD BELTS for larger, normal speed drives including those with heavy shock loads and severe starting conditions.

COMPASS-V-STEEL BELTS for maximum load capacity, high heat resistance, low power consumption and minimum space. Speeds from 10 to 10,000 FPM. In sizes up to 120".

STEEL CABLE V-BELTS for longer drives, belt length 120" and over, and heavy HP loads.

HY-T BELTS built with synthetic fibers — have nylon's strength without its stretch on severest heavy-duty drives; oil-resistant construction at no extra cost.

OPEN-END V-BELTING for line shaft drives, no take-up drives and dismantle-to-install drives; built to operate with and really hold metal fasteners.

FRACTIONAL HP BELTS for miscellaneous light machinery drives employing single belts.

One of these constructions will be the right answer to *your* V-drive problem — will give longer, more economical V-belt service in your mill. So ask the G.T.M. for details, or write:

Goodyear, Akron 16, Ohio.

FOR HOSE, FLAT BELTS, V-BELTS, MOLDED GOODS, PACKING, TANK LINING, RUBBER-COVERED ROLLS *built to the world's highest standard of quality, phone your nearest Goodyear Industrial Rubber Products Distributor.*

GOODYEAR

THE GREATEST NAME IN RUBBER

E-C Cord, Compass, Hy-T-T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

We think you'll like "THE GREATEST STORY EVER TOLD" – Every Sunday – ABC Network

For Sanforized fabrics don't settle for less:

Twitchell 7250 Oil gives you *all three advantages in one!*

SUPERIOR FIBER LUBRICATION . . . provides easy and uniform rearrangement of fibers during fabric pre-shrinking, assuring more uniform goods . . . eliminates sticking at the shoes.

FASTEST REWETTING . . . through high speed, uniform rewetting, you get increased production efficiency. For example, treating a 6 oz. untreated duck with a 3% solution of Twitchell 7250 reduces rewetting time from *5-10 minutes to only 15.2 seconds!* Rewetting ability is not affected by prolonged aging on fabrics or by finishing agents.

SOFT HAND . . . enables you to save on other finishing agents normally needed. In many cases Twitchell 7250 provides *all* the necessary softness.

In addition, this oil resists staining, yellowing, oxidation and rancidity . . . gives you the best rewetting buy on the market today. Save time, money . . . buy Twitchell 7250 today.

For a recommendation to fit your particular need, contact our Development and Service Department.

Other Twitchell Oils for other requirements. Select the one that best suits your conditions.

PRODUCT	FIBER LUBRICATION	REWETTING	SOFTNESS	STAINING
Twitchell 7250	Very Good	Fastest	Softest	None
Twitchell 7240	Excellent	Fast	Moderate	None
Twitchell 7231	Excellent	Medium	Slight	None

Emery *Twitchell Textile Oils*

EMERY INDUSTRIES, INC.
Carew Tower, Cincinnati 2, Ohio

BRANCH OFFICES:
3002 Woolworth Bldg., New York 7, N. Y.
401 N. Broad St., Philadelphia 8, Pa.
187 Perry St., Lowell, Mass.
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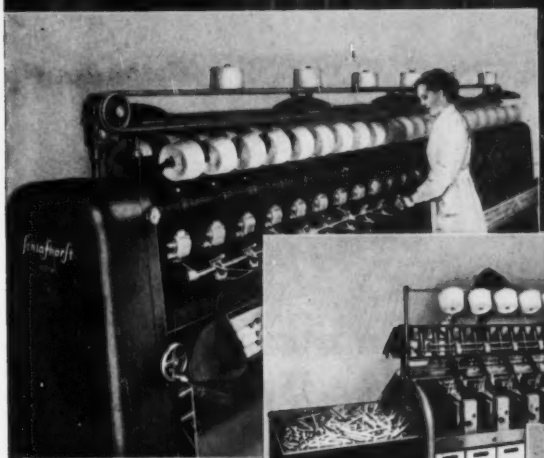
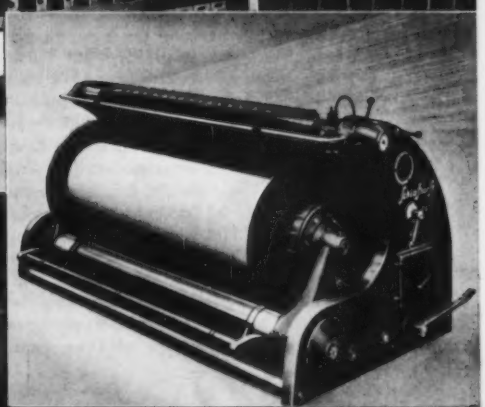
420 Market St., San Francisco 11, Calif.
Export: 5035 RCA Bldg., New York 20, N. Y.
Warehouse stocks also in St. Louis, Buffalo and Baltimore

MACHINERY FOR WINDING AND WARPING

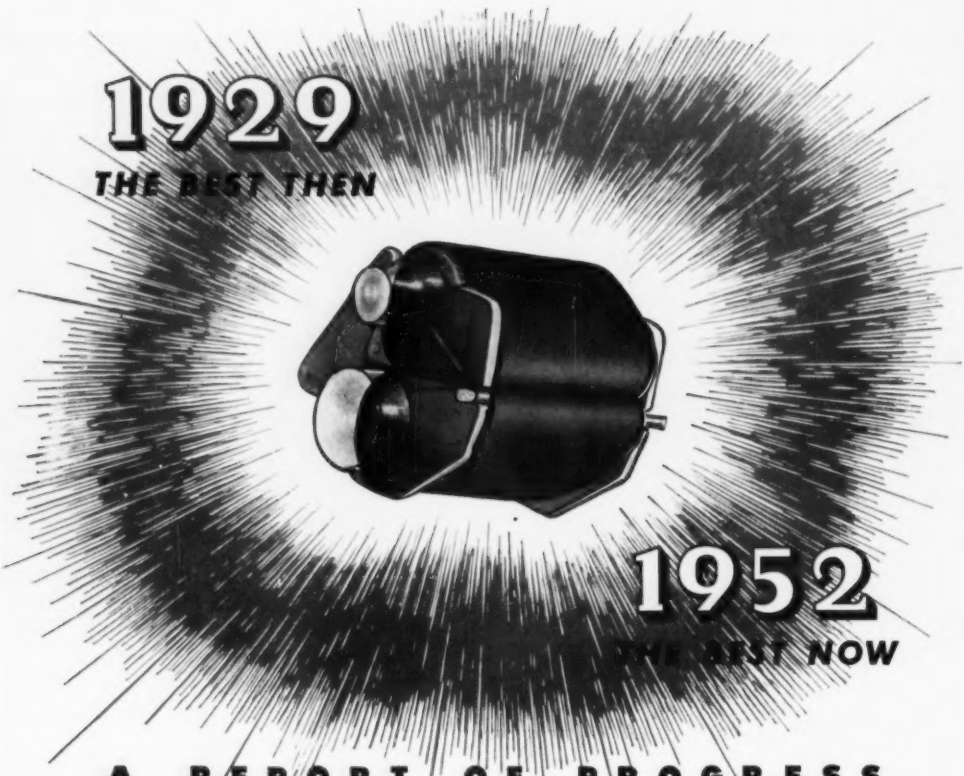
Schlafhorst





UNIOMATIC

MAKERS: - W. SCHLAFHORST & CO., M. GLADBACH, GERMANY



A REPORT OF PROGRESS

on the Whitin 2-Apron System for Long Draft Spinning

The principle of Long Draft Spinning is not new. For years textile men the world over had sought a successful method of combining higher drafts with *better fiber control.*

In 1929, Whitin, recognizing the outstanding merits and possibilities of the Casablancas 2-Apron System, introduced it on a large scale to the American textile industry.

Its acceptance by the industry was quick and widespread. Today, we can report having equipped 10,000,000 spindles, including both new spinning frames and changeovers, with the Whitin Long Draft System. This far exceeds the number of spindles equipped with any other single type of Long Draft System in the world. This record highlights the competitive benefits that leading mills have gained from the increased production and the stronger, more uniform yarns that can be spun on this system.

Whitin now has had 23 years of research, development, and manufacturing experience in adapting it to meet mills' requirements. Originally applied to cotton, it is now being extensively used for spun rayon, and worsted blends also. This experience, plus new large research facilities, will enable Whitin to retain its leadership in building better spinning frames equipped with the 2-apron Long Draft System.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

ACIDS • FUMES • ALKALIES • SOAPS • CORROSION • MILDEW • DECAY • STEAM • OXIDATION • WEAR • CONDENSATION • RUST • ABRASION • HEAT • SOOT • WATER • SMOKE • SUN
for Really Tough Applications...
TROPICAL
heavy-duty
MAINTENANCE PAINTS
SINCE 1883

THERE IS A TROPICAL *heavy-duty* PAINT FOR EVERY "PROBLEM JOB" YOU HAVE!

You don't have to resign yourself to frequent repeated painting on "problem" surfaces, using ordinary maintenance paints. In thousands of plants and buildings, for 68 years, Tropical *heavy-duty* maintenance paints have been solving these "problem jobs" effectively. Tropical fresh-mixed paints are specially formulated for the really tough applications. That's why they far outlast ordinary maintenance paints and endure where the service is severe! To select the right paint for the job, in the right quantity, and for correct method of application, use the expert service of the Tropical man in your community. Write us today!

Since 1883

HEAVY-DUTY MAINTENANCE PAINTS

TROPICAL®

SUBSIDIARY OF PARKER RUST PROOF COMPANY

MAKERS OF Bonderite QUALITY CORROSION-RESISTANT

WHY DO ⅓ OF U.S. TEXTILE PLANTS USE TROPICAL?

. . . because they have proved Tropical paints superior for a multitude of "tough" applications, from dye sticks and bobbins to oven trays and loom harnesses. Where chemicals, rust and moisture are real problems, Tropical *heavy-duty* paints far outlast ordinary maintenance paints!

FREE! **Send for your copy of the "Industrial Paint Index"— a quick, convenient reference chart for a multitude of maintenance paint applications!**

THE TROPICAL PAINT & OIL COMPANY, 1120-1300 West 70th St., Cleveland 2, Ohio

FIBER FARE ... from Du Pont

How research wars on WRINKLES

How well a fabric resists wrinkling—and how easily the wrinkles "hang out" in a closet—are determined by this wrinkle-tester in the Du Pont Fiber Research Laboratory. Here, the fabric gets wrinkled under compression by weights, and a sensitive probe measures every wrinkle and records it on a graph. The machine helps scientists in their step-by-step check on fiber developments.

..."Dacron" helps to fight it faster!

Fire hose re-enforced with "Dacron" polyester fiber is light in weight, so firemen find it more maneuverable—faster to work with. 40 per cent more hose fits on a fire truck without increasing the load. Important, too . . . the "Dacron" content adds new resistance to stretching.

FOR MODERN LIFE ... MODERN FIBERS!

Population increases; incomes improve; the standard of living gets better. New inventions advance man's way of life. Aviation calls for apparel that is light and fashionable; air conditioning makes "year-round" clothing practical; the automobile sparks the development of tougher upholstery materials. So more and better man-made fibers are made to meet the needs!

NEW STOPPERS FOR SHOPPERS

The consumer finds facts about man-made fibers in big-space ads like these, appearing soon in national magazines. Starting with an interesting "stopper" about research or manufacturing processes, the ads include specific information about each of the five Du Pont fibers.

Give her the fiber facts on blends!

Blending man-made fibers into fabrics makes them better values! Be sure the shopper knows that even a small content of certain man-made fibers can make a garment last longer, or look better, or resist shrinkage! Help today's fiber-curious shopper by knowing the fiber facts on every blended fabric you carry . . . and tell all of your salespeople so they can pass the selling word along!

NYLON
ACETATE
ORLON* acrylic fiber
RAYON
DACRON* polyester fiber
*DU PONT TRADE MARKS

Textile Fibers Department, E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Del.

Du Pont makes only the fibers —not the fabrics or finished products shown.

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING. . . THROUGH CHEMISTRY

DU PONT FIBERS ARE PLANNED FOR BETTER LIVING

here's one more for the line

PEREGAL® ST

NEW and BETTER DYE STRIPPING AID for VAT, DIRECT and SULFUR DYEINGS

Textile plant men who participated in field tests on this phenomenal new dyestripping agent were amazed at its effectiveness in binding dyestuffs irreversibly and permanently. In many instances it was found to be *ten* times as effective as other stripping aids considered excellent until now.

As a very weakly cationic material, Peregal ST forms very stable cation-anion complexes with dyestuffs containing sulfo groups, or phenolate groups in aqueous solution. In stripping operations, once the fiber-dyestuff bond is broken, the dislodged dye is preferentially bound to the Peregal ST, for which it has greater affinity than for cellulose. Even after prolonged treatment this equilibrium cannot be shifted toward dyestuff on cotton.

Samples and further information will be furnished on request. Please address inquiries to Department B.

PEREGAL ST

CHEMICAL COMPOSITION: a polyvinyl pyrrolidone

FORM: tan liquid

SOLUBILITY: water soluble

STABILITY: stable to acids and alkalis in concentrations encountered. Excessive amounts of NaOH (10°Bé) will insolubilize Peregal ST.

ANTARA® CHEMICALS

DIVISION OF

GENERAL DYESTUFF CORPORATION

435 HUDSON STREET • NEW YORK 14, NEW YORK

BRANCHES

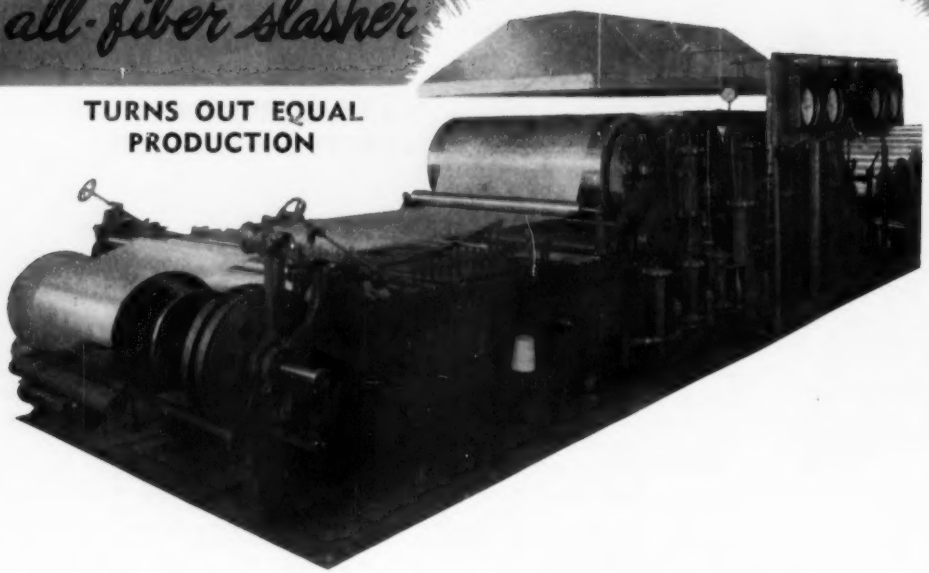
Boston • Providence • Philadelphia • Charlotte, N. C. • Chicago • Portland, Ore. • San Francisco

IN CANADA: Chemical Developments of Canada Limited, Leaside, Toronto 17
Irwin Dyestuff Corporation Limited, Montreal 1

For more information, write direct or use Reader Service post card.

Southern Cotton Mill replaces 3 cotton slashers with 1 Johnson all-fiber slasher

TURNS OUT EQUAL PRODUCTION



Determined to cut costs in its slasher room, an important southern cotton mill had us work with them to determine the cost of replacing three old cotton slashers with a modern ALL-FIBER JOHNSON 9 cylinder slasher.

The indicated savings were so impressive that this mill immediately placed an order for a modern Johnson machine.

Labor, steam, floor space, and replacement part requirements are sharply reduced. Better cotton warps are assured. Loom production is increased. If the mill decides to go into synthetics, it has a machine that will do a superior sizing job on rayon, spun rayon, acetate, nylon, orlon, and other yarns—at high production speed.

If you are interested in lowering your sizing costs, write us about our Johnson Sizer Check-up. It may uncover large savings in your slasher room. No obligation is involved.

Charles B. Johnson

PATERSON, NEW JERSEY

New England and Canadian Representative: J. S. FALLOW & CO., New Bedford, Mass.
Southern Representative: LUCAS ASSOCIATES, INC., CHARLOTTE 1, N. C.

To insure WASHABILITY
in direct-dyed rayon and cotton fabrics
use SANDOFIX · WE
SANDOFIX · WE insures clear, wash-fast colors. It is the outstanding assistant for producing saleable rayon sports fabrics at an attractive cost ★ Colors will not migrate in direct-dyed rayon and cotton when fixed with an after-treatment of SANDOFIX · WE ★ It increases fastness to washing and perspiration . . . makes fabrics more resistant to hot-wet pressing. SANDOFIX · WE also preserves acetate white effects ★ SANDOFIX · WE prevents "marking-off" . . . assures clearness of design in printing. Reliable results are obtained by using SANDOFIX · WE during the rinsing operation either in rope form or in the open width soaper ★ Write Sandoz for detailed information.
SANDOZ
thinks ahead
with textiles
SANDOZ
For forecast colors as well as perennial favorites—select from Sandoz' line of chrome, acid, direct dyes and auxiliary chemicals for both natural and synthetic fibers.
SANDOZ CHEMICAL WORKS, INC., 61 Van Dam Street, New York 13, N. Y. Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto.
Other branches at Providence, Fairlawn, N. J., and Montreal.

For extreme light fastness for greys, sands, taupes

PYRAZOL Fast Rubine BLN

Pyrazol Fast Rubine BLN is an excellent red element for greys, sands, and taupes due to its extreme light fastness with or without urea formaldehyde resin. Combined with Pyrazol Fast Blue RUL or FGL and Pyrazol Fast Orange 4G it gives exceedingly good light fastness at moderate costs. Pyrazol Fast Rubine BLN is ideal for rayons and cottons for both men's and women's suitings, sport shirts, slacks.

It is a good leveling color, suitable for jig work, draws well and shows good exhaustion.

Excellent fastness to perspiration.

SANDOZ CHEMICAL WORKS, INC. *61 Van Dam Street, New York 13, N. Y.*
Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto. Other branches at Providence, Fairlawn, N. J., and Montreal.

SANDOZ *thinks ahead with textiles*

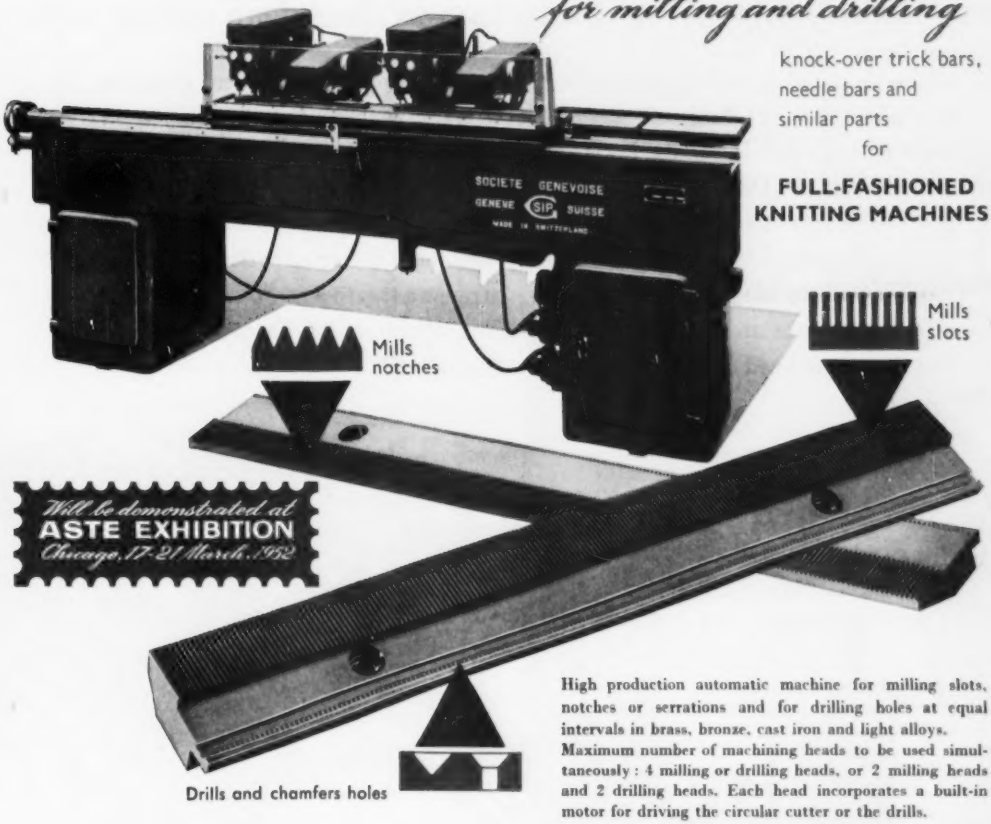
SANDOZ

NEW SIP DIVIDING MACHINE FPL-1000

for milling and drilling

knock-over trick bars,
needle bars and
similar parts
for

FULL-FASHIONED KNITTING MACHINES



Will be demonstrated at
ASTE EXHIBITION
Chicago, 17-21 March 1952

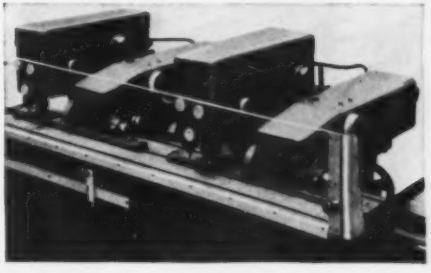
Drills and chamfers holes

High production automatic machine for milling slots, notches or serrations and for drilling holes at equal intervals in brass, bronze, cast iron and light alloys. Maximum number of machining heads to be used simultaneously : 4 milling or drilling heads, or 2 milling heads and 2 drilling heads. Each head incorporates a built-in motor for driving the circular cutter or the drills.

SPECIFICATIONS

Table working surface	$41\frac{1}{2} \times 7\frac{7}{8}$ in.
Dividing range	40 in.
Total table travel	$40\frac{1}{2}$ in.
Linear pitch of lead screw	4 t.p.i.
Diameter of lead screw	$1\frac{9}{16}$ in.
Compensator adjustable to	$\pm$ 0.5‰ of the divided length
Maximum graduation interval	$\frac{1}{4}$ in.

Guaranteed accuracy for all table settings: .0004 in.



AMERICAN SIP CORPORATION

HIGH PRECISION MACHINE TOOLS AND MEASURING EQUIPMENT

100 East 42nd Street NEW YORK 17, N.Y.

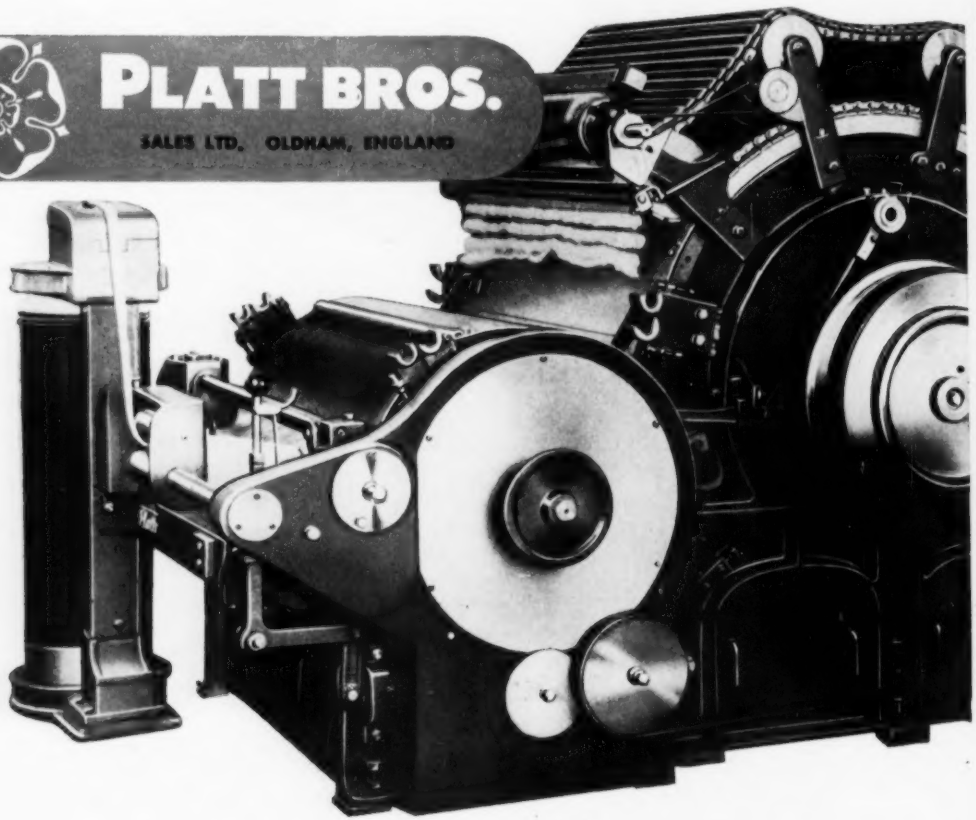
Hundreds of Platt

are already improving production in American cotton mills

There are a lot of mills rediscovering the perfection of Platt machinery. This cotton card is solidly built to close tolerances. One outstanding result is the way it takes *and holds* an accurate setting; vibration is eliminated at all working speeds; undesirable air currents are eliminated. Notice the streamlined design and guarding to keep fly *outside* where it can be easily wiped off. It will pay you in immediate cash savings and future improved production to see this card in action. Could you visit our Charlotte machinery center, or perhaps we could arrange a trip to a nearby installation? You'll hear a lot about even, nepless webs!!

PLATT BROS.

SALES LTD. OLDHAM, ENGLAND



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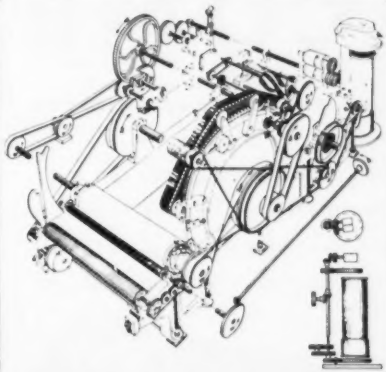
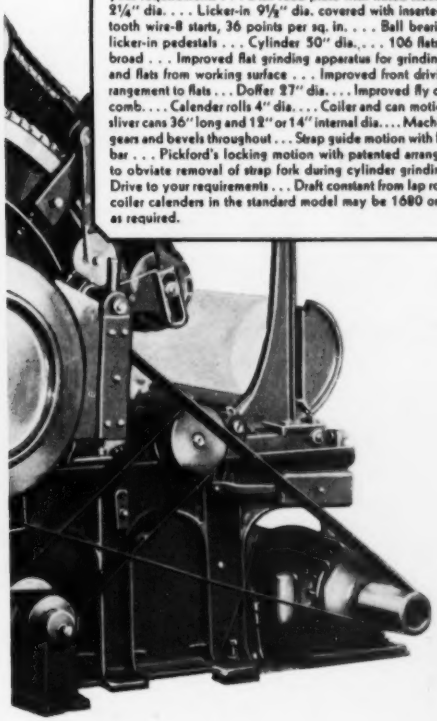
Cards



STANDARD SPECIFICATIONS: 40" wide . . . Clothing for your requirements . . . Dish feed plate with fluted steel roller 2¼" dia. . . . Licker-in 9½" dia. covered with inserted saw-tooth wire-8 starts, 36 points per sq. in. . . . Ball bearings to licker-in pedestals . . . Cylinder 50" dia. . . . 106 flats 1⅜" broad . . . Improved flat grinding apparatus for grinding wire and flats from working surface . . . Improved front driving arrangement to flats . . . Doffer 27" dia. . . . Improved fly doffing comb. . . . Calender rolls 4" dia. . . . Coiler and can motions for sliver cans 36" long and 12" or 14" internal dia. . . . Machine cut gears and bevels throughout . . . Strap guide motion with handle bar . . . Pickford's locking motion with patented arrangement to obviate removal of strap fork during cylinder grinding . . . Drive to your requirements . . . Draft constant from lap roller to coiler calenders in the standard model may be 1680 or 2240 as required.



Seeing the machine and the process...

Being engineers and agents for every type of cotton preparatory machinery gives us a broad perspective; an understanding of the interdependence of machines; you might say the ability to see *the forest* and *the trees*. May we be of service to you in selecting a single machine or a complete mill?

Atkinson, Haserick & Co.

a. h.

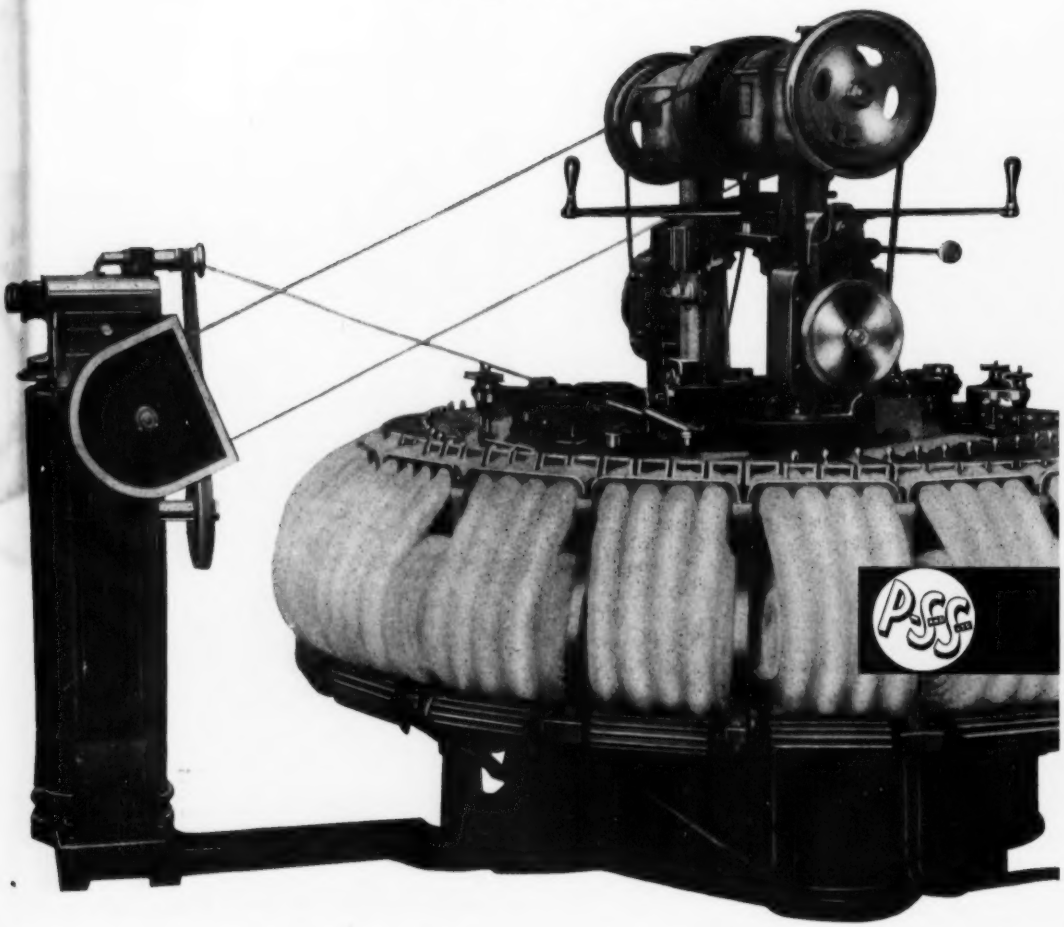
Textile Machinery Agents and Engineers Since 1823

211 CONGRESS STREET
BOSTON 6, MASS.
1639 W. MOREHEAD STREET
CHARLOTTE 2, N. C.

Prince-Smith & Stells

NOBLE COMB

This machine is the standard throughout the world for combing longer types of wools, synthetics and blends by reason of its simplicity, low cost of upkeep and productive capacity. Some of the features of this machine are shown on the opposite page. Complete data will be supplied upon request.



For more information, write direct or use Reader Service post card.

FEATURES

Perfectly balanced dabbing motion reduces vibration and wear.

Circles with different pinning for certain qualities of wool and other fibers are interchangeable without disturbing the gearing.

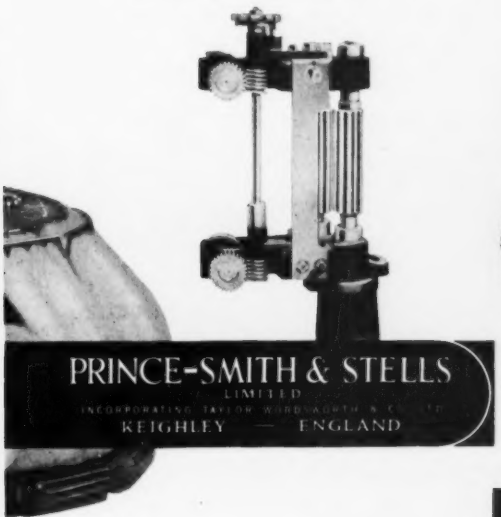
New stop motion is highly sensitive to laps on the aprons. Eliminates risk of damage to drawing-off aprons and circles.

New type circle cleaner raises residual fibers to the top of the pins.

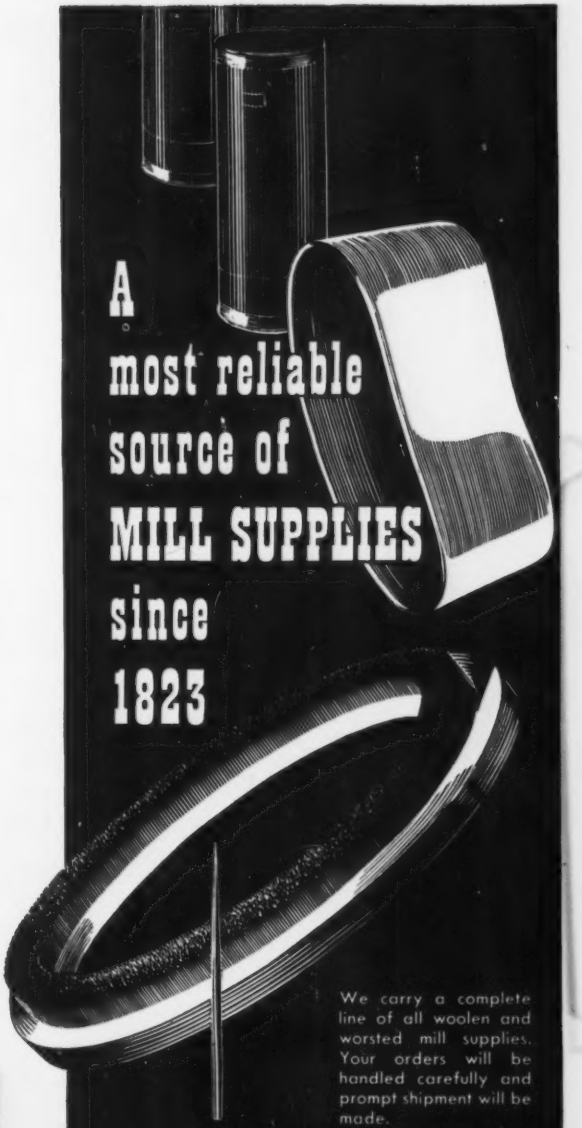
The "Perfect" feed knife maintains ideal feeding conditions automatically and eliminates the human element.

P.S.B. ROLLER STAND

The patented roller stand assures absolutely equal pressure at each end of the rolls and allows easy replacement of the aprons. Adjustments may be made while the machine is in operation.



PRINCE-SMITH & STELLS
LIMITED
INCORPORATING TAYLOR WORDSWORTH & CO. LTD.
KEIGHLEY — ENGLAND



A most reliable source of MILL SUPPLIES since 1823

We carry a complete line of all woolen and worsted mill supplies. Your orders will be handled carefully and prompt shipment will be made.

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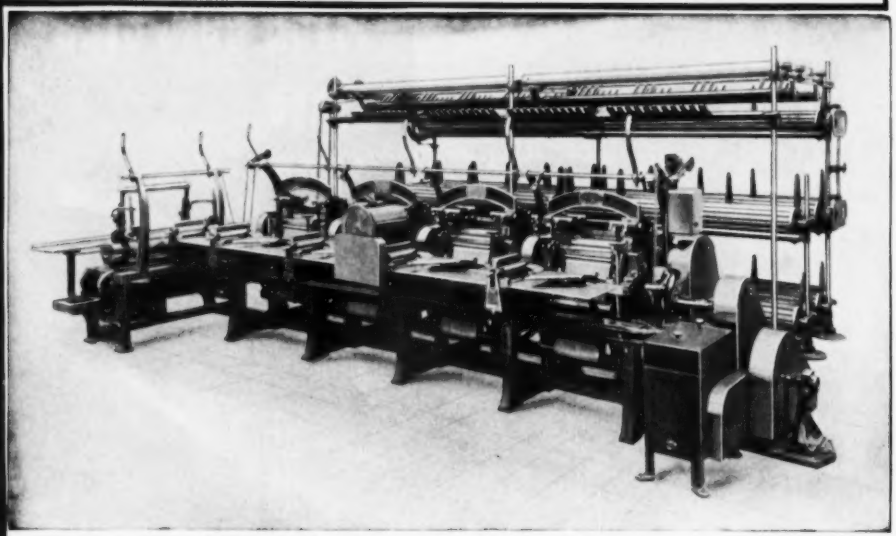

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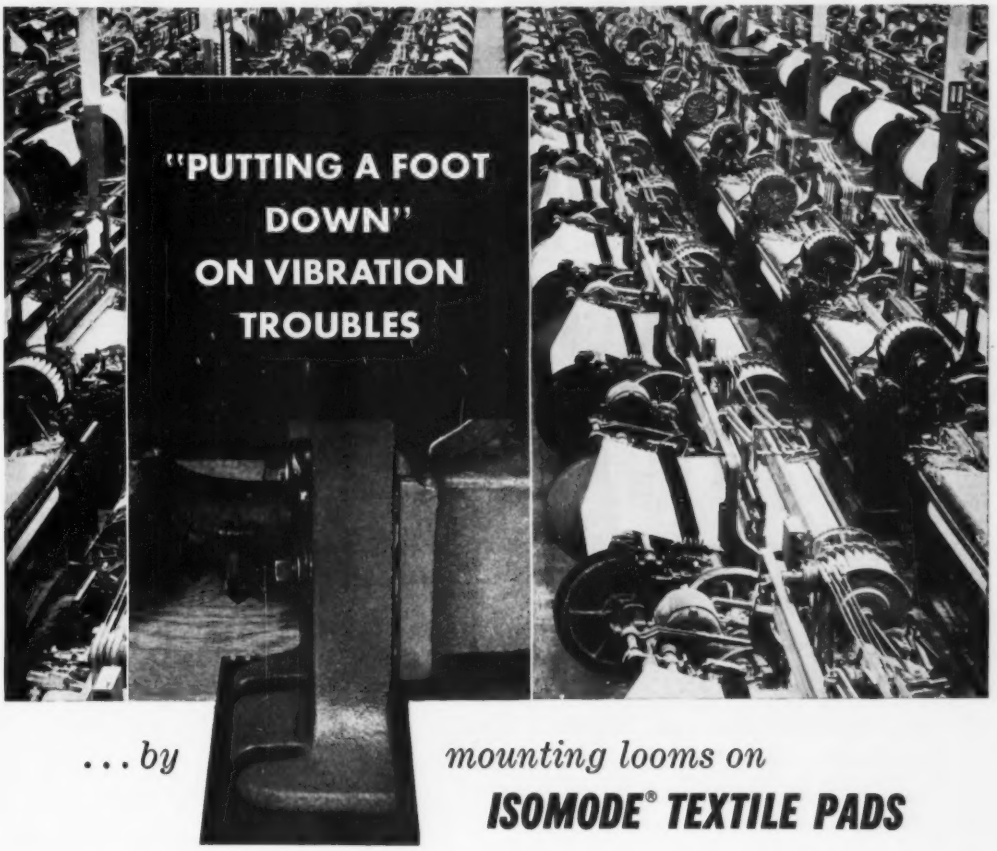

... by mounting looms on

ISOMODE® TEXTILE PADS

● Everybody knows how alert Springs Cotton Mills is for ways to improve mill operations and increase efficiency. So it's no accident that row after row of looms in their mills are now supported on Isomode* Textile Pads. Their experience showed that vibration control reduced excessive loom maintenance, noise, and disturbances transmitted to floor. Thorough testing and actual installations further proved that Isomode Textile Pads were not only one of the *best* vibration absorbing mountings to use, but also one of the most *economical.*

It's easy to install Isomode Textile Pads. Allowing ⅛ or ¼ inch overlap securely beds down loom legs on this resilient, ribbed, spring-like pad *without bolting!* You thereby end strains on looms, correct the effect of uneven floors—which helps to keep looms on the job longer.

Discover how little it will cost you to install Isomode Textile Pads and gain the substantial benefits resulting from vibration control. Write for data and prices. **Trade Mark Reg. U. S. Pat. Off.*

THE MB MANUFACTURING COMPANY, Inc.
1084 State Street, New Haven 11, Conn.

Distributed by: Oliver D. Landis Co., Charlotte, N. C. • Standard Mill Supply, New York 1, N.Y. • Matthews Equipment Co., Providence, R.I. • R. B. Dorman, Atlanta, Ga. • Upton, Bradeen & James, Ltd., Toronto, Montreal, Vancouver, Canada

 For more information, write direct or use Reader Service post card.

No Place for LINT IN THIS MOTOR!

ALLIS-CHALMERS Quick-Clean MOTORS

LINT CAN'T GIVE YOU MOTOR TROUBLE when you use *Quick-Clean* Textile Motors because these motors are built to operate in the thickest atmosphere without being affected by lint and dirt.

Quick-Clean Motors are equipped with sealed bearings which are not affected by lint, require no periodic maintenance and will not leak grease to collect lint or soil materials. For more details on why *Quick-Clean* Motors are better for your mill, call your nearby Allis-Chalmers Authorized Distributor or District Office or write Allis-Chalmers, Milwaukee 1, Wisconsin for the bulletins shown below.

A-3376

Quick-Clean, Texrope and Vari-Pitch are Allis-Chalmers trademarks.

1.

LARGE AIR INLETS

supply plenty of fast-moving air to carry air-borne lint and dirt right through the *Quick-Clean* Textile Motor. All corners are rounded and surfaces smoothed so that lint cannot catch or settle. Bearing end shields are open all around except for bearing cap support ribs.

MATCH *QUICK-CLEAN* MOTORS WITH A-C STARTERS!

This control was developed for dependable, safe starting of *Quick-Clean* motors. Other Allis-Chalmers motor control will give you dependable operation of all electrical equipment in your plant. Competent application engineers are always available through your nearby Allis-Chalmers Sales Office.

Send for Free Literature

Quick-Clean Textile Motors	51B6055
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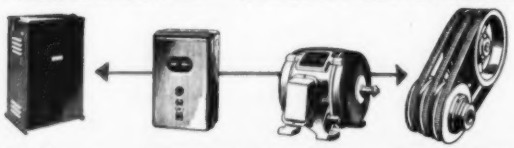
COMPLETE SERVICE — from Power Line to Machine



Transformers *Motor Control* *Motors* *Texrope Drives*

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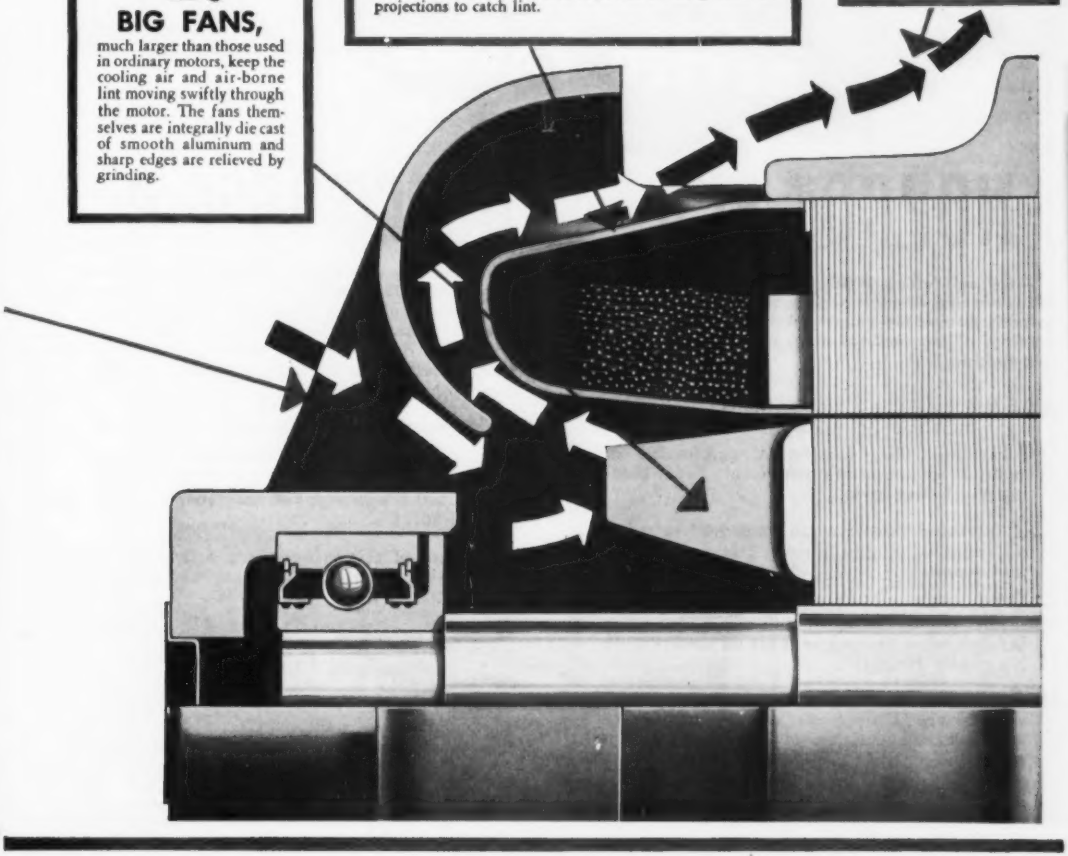
to Hide

2. BIG FANS, much larger than those used in ordinary motors, keep the cooling air and air-borne lint moving swiftly through the motor. The fans themselves are integrally die cast of smooth aluminum and sharp edges are relieved by grinding.

3. ENDS OF THE STATOR COILS ARE SHIELDED. Bakelite shields completely enclose coil ends and blend smoothly, with the help of plastic cement, into the contours of the frame. As a result, there are no pockets or projections to catch lint.

4. AIR OUTLETS ARE LARGE. Except at supporting ribs, the circumference of each end shield is open. End shields and yoke are shaped to aid air flow and keep air velocity high. Central rib directs air stream away from motor to prevent recirculation of heated air.



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Originator of the Multiple V-Belt Drive for the Textile Industry

TWO BIG AIDS for producing BETTER YARNS

NOPCO* FUA

—the self-fulling WOOL oil whose remarkable efficiency and versatile performance is proven daily in mills thruout the country. Acts like an *oil* during carding, gilling and spinning, and like a *soap* in wet finishing.

ASSURES:

1 Excellent fiber lubrication, elimination of static, no gumming of cards. Result: Better carding and loftier roving.

2 Increased yarn strength, improved spinning on mules or frames. Result: Higher spinning production.

3 Improved results from the steaming process —since Nopco FUA does not set in the yarn, nor in fabric when greige goods are crabbed. Result: No cloudy dyeing.

4 Excellent results from the fulling process—since Nopco FUA provides superior fulling with excellent sudsing action (*without* the addition of soaps or detergents).

5 Fast, ultra-efficient scouring—again without the addition of soaps or detergents. Residual oil content only about 0.2%.

Reg. U. S. Pat. Off.

NOPCO 1656-R

—the specially developed anti-static oil that enables the WORSTED manufacturer to obtain exceptionally good results—comparable to those achieved by users of Nopco FUA for wool processing.

1 Fibers remain static-free thruout carding, gilling, combing and drawing.

2 Even-running yarn is assured.

3 Removal is phenomenal. Used in conjunction with alkali, polyphosphate and water, Nopco 1656-R actually *converts into suds.* Soap usage is reduced 50-75%.

4 Because of this self-scouring feature, *better* dyeing and finishing results are obtained at *lower* cost.

5 Nopco 1656-R is non-gumming, non-yellowing, non-corrosive.

6 No changes in equipment or methods are necessary. Nopco 1656-R is applied in same manner as any conventional lubricant.

If you buy WORSTED top, specify Nopco 1656-R—every commission top maker is thoroughly familiar with it. If you manufacture WORSTED tops, process them with Nopco 1656-R and profit by gaining increased customer satisfaction.

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Here's Why You Get

LOWER HIGH-PRESSURE PUMPING COSTS

with this distinctively new

Class HMTA

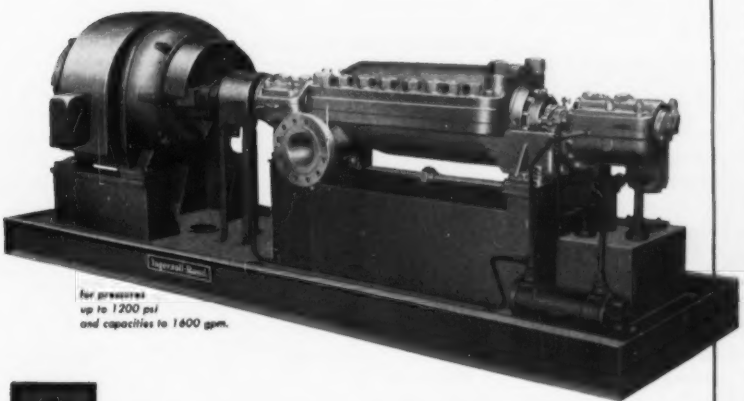
multi-stage centrifugal pump

Check the many distinctive features of Ingersoll-Rand's Class HMTA high-pressure centrifugal pump. See how they all add up to important long-range savings in installation, operation and maintenance. For here is the completely modern answer to the problems inherent in high pressure pumping service—a pump that's designed around the latest advances in hydraulic engineering.

Operating efficiencies stay higher, longer—because all running clearances are proportioned for minimum wear and materials are carefully selected for dependable performance. Maintenance is easier—and there's less of it—with simpler, more rugged construction and greater accessibility throughout. And spare parts inventories are lower due to increased interchangeability between stages.

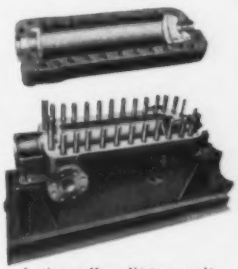
HMTA pumps may be equipped with the Cameron Shaft Seal—and with sleeve or ball bearings, as desired.

Your nearest I-R representative will be glad to give you complete information. Or write for your free copy of Bulletin No. 7233.



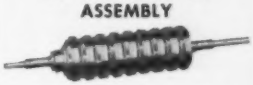
for pressures up to 1200 psi and capacities to 1600 gpm.

STRONG, SMOOTH-BORE CASING



—horizontally split to permit access to rotor assembly without disturbing piping connections.

UNIT-TYPE ROTOR ASSEMBLY

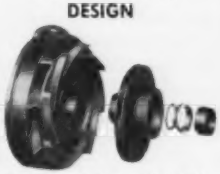


—including impellers, wearing rings, and stationary channel rings with interstage liquid passages. All elements self-aligning, all precision-machined for high sustained efficiency.

POSITIVE INTERSTAGE SEALING

—at all temperatures and pressures is provided by corrosion-resistant, metallic rings which form the fit between channel rings and casing. These rings form the most efficient, practical seal yet devised, contributing to the higher efficiency of the HMTA.

MULTIPLE-VOLUTE DESIGN



—assures complete radial balance of impellers over entire range of pump operation.

These and many other new HMTA features add up to:

- GREATER DEPENDABILITY
- HIGHER SUSTAINED EFFICIENCY
- LOWER MAINTENANCE COST

Ingersoll-Rand CAMERON DIVISION 610-10

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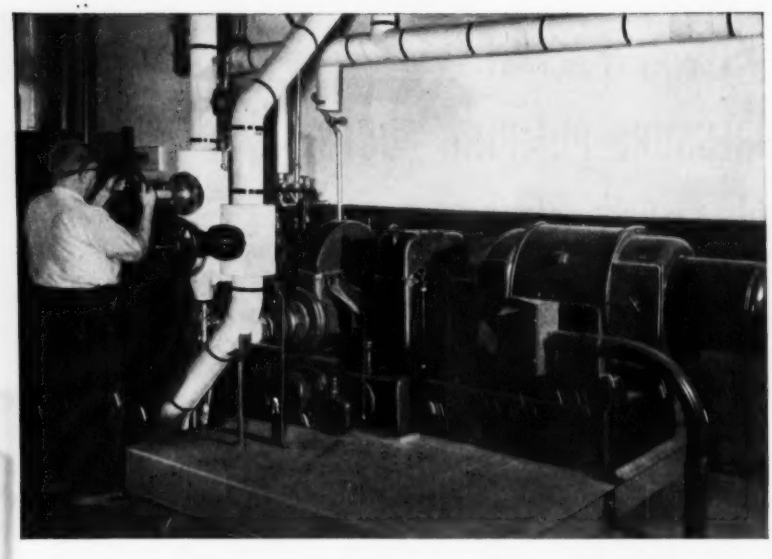


Co-ordinating power generation with process-steam production is justified by the economics of the dyeing operation at Fruit of the Loom, Pontiac Division's print works. This 100-kw G-E turbine-generator furnishes all the d-c power needed for the plant's open soaper range drive, and also exhausts low-pressure steam for process heating. On the right of the turbine are the d-c generator and its exciter. Shown in photo is Clarence Frey, plant power engineer.

FRUIT OF THE LOOM PLANT INSTALLS G-E TURBINE-ELECTRIC RANGE DRIVE to cut dyeing costs

Utilizes available steam to drive G-E turbine-generator powering continuous dyeing range

Here is a case where the constructive help of a General Electric textile-mill specialist enabled a company to obtain power for its continuous dyeing range at really low cost. It's the Fruit of the Loom, Pontiac Division, at Pontiac, R. I., where the dyeing process includes an open soaper driven by nine G-E gear-motors. Since steam for process needs was available in quantity, the G-E representative suggested taking advantage of this fact by using a steam turbine.

Recently installed, this G-E turbine takes steam at 215 pounds gage to run a d-c generator that powers the G-E gear-motors. The turbine's exhaust steam, at 25 pounds gage, is then used to heat dyes and for other process uses. Result: power for the drive motors, at very low cost!

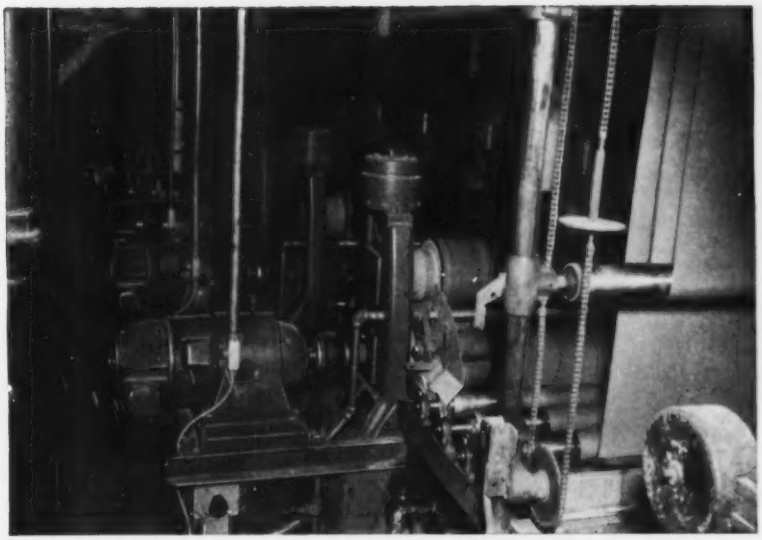
If *your* textile mill has available steam at 90 pounds gage or more, and additional low-pressure process steam is needed, a G-E turbine-electric range drive may well apply to your operation. Like all G-E range drives, it offers wide speed ranges, easily controlled over-all speed, operating flexibility, close co-ordination of all motor speeds, and modern electric braking systems—for most efficient range operation!

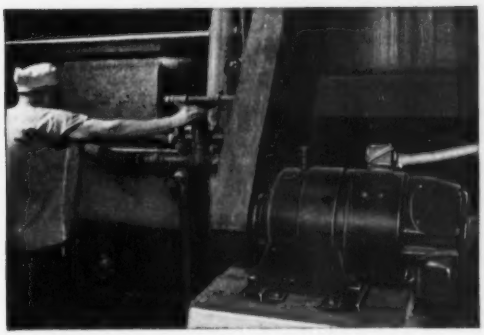
Whether you're planning a complete new range, or converting to range operation, a G-E textile-mill specialist is available to work on your drive problems—to your profit. Call him at your nearest G-E office. Meanwhile, send for Bulletins GEA-5010 and GEA-5648. ***General Electric Company, Schenectady 5, N. Y.***

GENERAL ELECTRIC

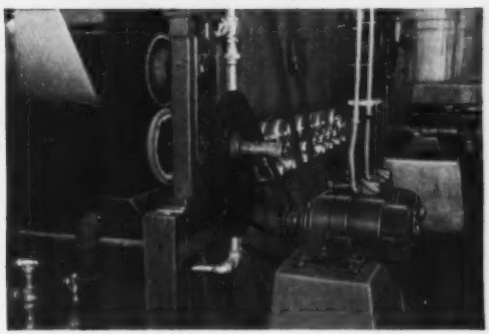
654-21

Because a low, reliable speed was needed nine G-E d-c gear-motors were chosen to drive the open soaper—part of the plant's continuous dyeing range—where surplus dyes are rinsed off the material. Each of these gear-motors—rated 5 hp, 230 volts, 100 rpm—combines a 1750 rpm motor with a built-in reduction gear into one self-contained unit that is highly efficient, compactly designed to save space, and sturdily built for long life.





After pigment is applied, cloth passes through drying flue to this 3-roll chemical padder, then through the ager to the open soaper, and finally to the dry cans. Driving the padder is another G-E d-c gear-motor, this one rated 10 hp, 230 rpm.



From the 3-roll padder, material passes through this ager, where dyes are set in the material. One of these two G-E 3-hp d-c gear-motors drives the ager, the other drives the nip rolls which squeeze material emerging from the ager.

Shown here discussing the range control panel—which provides armature and field control of the d-c generator fed by the G-E steam turbine—are Byron J. Fish (right) plant engineer, and E. C. Phillips, G-E textile-mill specialist.

RANGE DRIVES
for Textile Mills

Here's a way to increase your workers' efficiency! Give them more motor "know-how" with General Electric's new Motor Selection and Application Course. It's one of G.E.'s "More Power to America" visual programs, and shows how motors work, types now in use, and how to select and apply them for specific jobs. Bulletin GEA-4938-16 describes the course in full. Write for it—now!

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Invisible Label
stands back of the Labels
of the
World's Finest Woven Fabrics

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You can't beat this Wool Oil Deal!

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Scientific Analysis
A S/V engineer uses special instruments (like this moisture meter) to analyze mill operations.
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After analysis, S/V engineer prepares report, with recommendation of correct wool oil.
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Why accept less for your mill?

You always deal yourself a winning hand when you use our fiber lubrication service and complete line of S/V Woolrex Oils. Our line-up of products includes both premium and low-cost oils to meet any desired degree of scourability and discoloration resistance. Each oil does the finest job possible—*on a price-performance basis!* Why not enjoy all five benefits of this exclusive wool oil service?

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Process Products
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SOCONY-VACUUM OIL COMPANY, INC.
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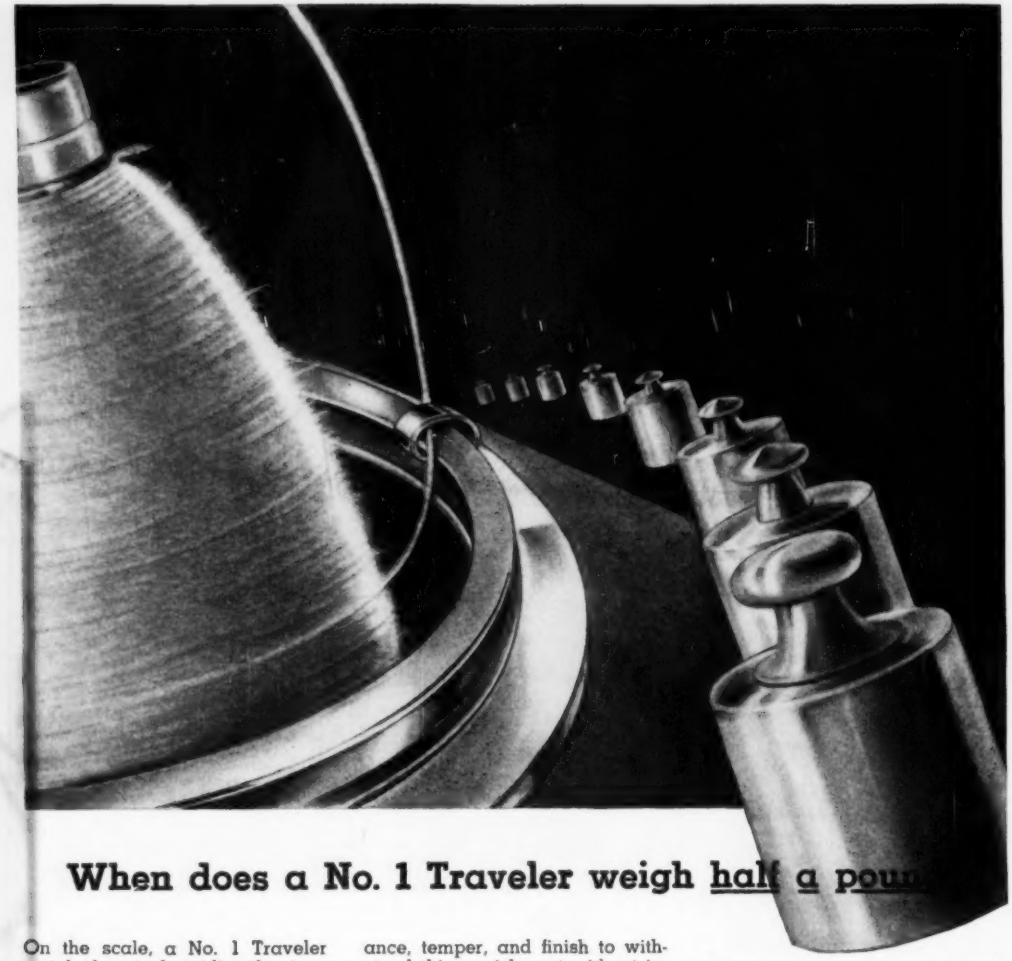

When does a No. 1 Traveler weigh half a pound?

On the scale, a No. 1 Traveler weighs 1 grain, but riding the rings at today's high speeds, it exerts an amazing "pull".

By applying simple dynamic principles to known factors, the centrifugal force can be calculated. For a No. 1 Traveler operating at 9600 r.p.m. spindle speed on a 2½" ring, this force is 3250 grains — almost half a pound!

Consider how this intensifies conditions of wear and friction. You'll see how important it is to choose travelers of the proper balance, temper, and finish to withstand this punishment without interrupting the smooth flow of yarn production.

Victor Travelers are made to serve longer — to deliver more pounds of yarn per traveler — under the toughest conditions. That's why they are first choice of economy-wise mill men for more than 10,000,000 of today's hard-working spindles.

Whether you are running conventional fibers, synthetics or blends, talk to a Victor Service Engineer about your traveler problem. Write, wire, or phone the nearest Victor office . . . for prompt service.

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VICTOR Ring Travelers

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A GREAT
MERCHANDISING
OPPORTUNITY

The new Federal Trade Commission rulings, effective February 9, require the identification of cellulose acetate fibers as "acetate" and viscose process fibers as "rayon" in all garments and articles made of these fibers.

In support of these rulings, Celanese Corporation of America has prepared the most extensive identification, educational and promotional programs in textile history.

IDENTIFICATION Through the newly formed Acetate Identification Bureau, Celanese is prepared to offer, without cost, several simple, flexible, properly worded and attractive hang tags. These are available for both all-acetate and acetate-combination fabrics and can include the imprint of the mill, manufacturer or retailer. These tags need not use Celanese trademarks.

EDUCATION Celanese provides a field force of women trained and equipped to work with:

Retail Stores — in giving sales personnel factual information on fibers, their performance and care.

Women's Clubs — in telling the consumer how she can buy more effectively through knowledge of fiber information now being brought to her.

Schools and Colleges — in stressing the importance of fiber identification and knowledge in home economics courses.

These speakers will have slide films, basic booklets on Acetate, visual training aids, Question and Answer folders as well as a variety of other educational material.

PROMOTION Celanese has scheduled a pre-tested advertising campaign running monthly in *Saturday Evening Post, Life, Woman's Home Companion* and *Good Housekeeping.*

A top rated, full-hour *network television show* carrying the Acetate story to a huge national audience. It not only carries general Acetate commercials but provides for merchandise tie-ups with local department stores.

Celanese schedules in the *leading fashion, home and pattern books* are continuing on specific merchandise, and they, too, underscore the special characteristics of Acetate.

A consistent campaign in *leading trade papers* continues to carry the story of what Acetate means to the industry and how it should be identified and sold. Mills, cutters and retailers will be informed in this way of promotional materials available and specific tie-in possibilities.

Extensive *editorial coverage* of the new FTC rulings, in all magazines and newspapers read by women, has been assured.

With so much firepower at your disposal, your obligation to identify Acetate can easily become one of the most effective selling tools you've ever used to move merchandise. Why not write now for full details of this program? Address: ACETATE IDENTIFICATION BUREAU, Celanese Corporation of America, 180 Madison Avenue, New York 16, N.Y.

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During World War II, Interchemical's Textile Colors Division did a vast amount of work with textile colors and specialties for military purposes.

Now, Interchemical has developed improved products to meet new and amended specifications.

For your present or future defense needs in textile colors and specialties, contact the nearest office of:

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for dyeing, flameproofing and mildewproofing
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for dyeing and flameproofing
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GREATER FLEXIBILITY
INCREASED PRODUCTION
LOWER LABOR COSTS
MORE EFFICIENT HANDLING

Savings

NOW GREATER THAN EVER WITH IMPROVED TERRELL BOBBIN CLEANING EQUIPMENT

To determine whether you're getting maximum efficiency from your bobbin cleaning equipment, compare its performance with Terrell's new, cost-saving machinery.

The Type K Bobbin Cleaner (shown above) cleans cotton and spun rayon feeler waste from plain-finish loom quills—both inside and out—at a speed of 100 to 125 bobbins per minute, eliminating the need for large bobbin inventories.

Handling costs are cut to a new low by Terrell Bobbin Box Hoists and Conveyors which carry bobbins directly to your cleaner and return them to the locations *you specify*.

It may pay you to re-examine your own bobbin cleaning operation, and let Terrell engineers suggest the equipment improvements which will save you most.

The TERRELL MACHINE CO., Inc.

CHARLOTTE, N. C.

Photographs taken in 1/20,000 second on a Draper X2 Loom at 175 picks per minute.

PICKMASTER Leather Pickers are available in the standard sizes required for Draper and Crompton & Knowles Looms.

Split-second follow-thru

PICKMASTER® Leather Pickers do not bounce the shuttle

CUT SHUTTLE COST
(No hot spurs)
STOP KINKY FILLING
(No shuttle-bounce)
REDUCE BANG-OFF
(Perfect boxing)
INCREASE PROFITS

CATALOG presents the complete line of Textile Leathers for weaving — also aprons and tapes. Ask for a copy — on your letterhead, please.

These "split-second" photographs prove that a Pickmaster Leather Picker *follows-thru* in a long, sweeping throw that sends the shuttle swiftly and smoothly into the other box. There, another Pickmaster catches it *without shuttle-bounce* — moves back with it *snug in the hole* to the end of the lay.

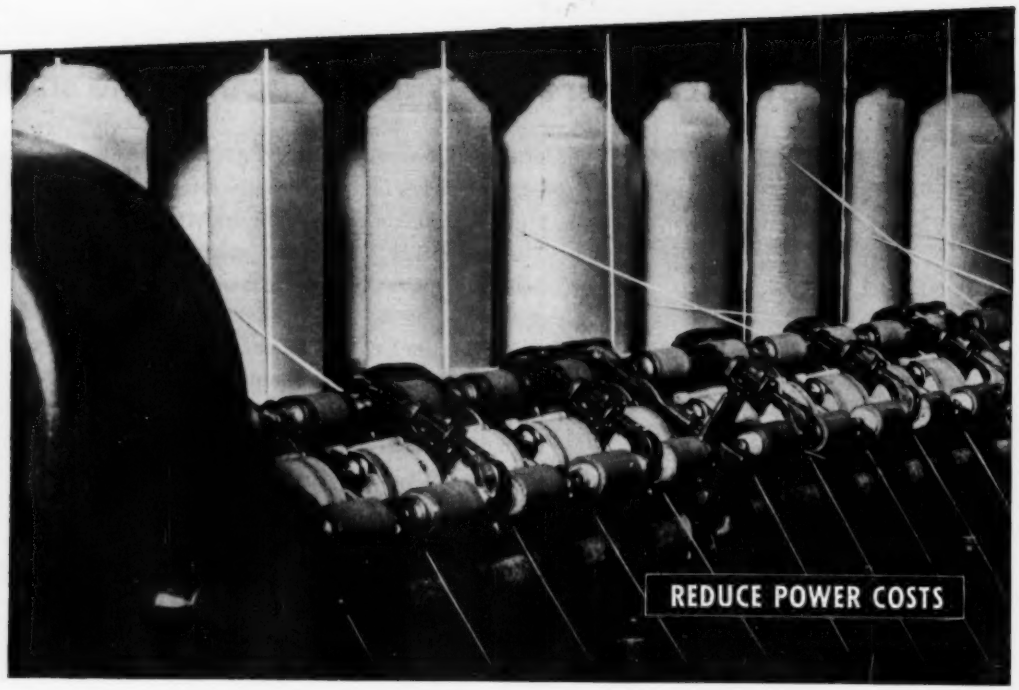
Pickmaster Leather Pickers do not retain and build up heat; do not catch fine filament.

Follow-thru with Orange Line Loom Leathers. More than 50 types are available to help loom tenders get more yardage with less waste and down-time.

second century G and K Orange® Line Textile Leathers

GRATON & KNIGHT COMPANY, Worcester 4, Mass. — DIXIE LEATHER CORPORATION, Affiliate, Albany, Ga.

Tests Show How to
CUT BOLSTER WEAR
—Save Replacements



For more information, write direct or use Reader Service post card.

Two-year field tests show that Sinclair Compounded Lily White Oils, AX, BX, CX, cut bolster wear up to two-thirds!

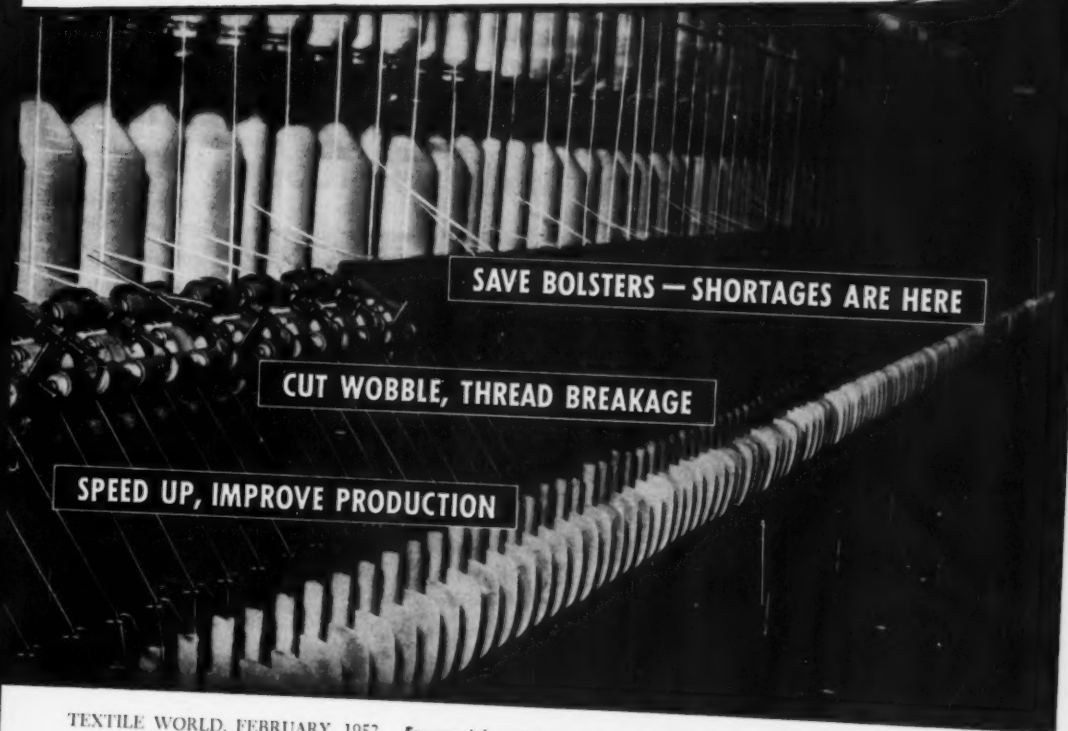
This oil can thus save a lot of bolster replacements—especially important in these days of shortages. Less wear also means less spindle wobble, thus reducing power demand and thread breakage and permitting use of a larger package.

All together, these advantages make Sinclair Lily White Oils important assets to any textile mill.

SINCLAIR
TEXTILE LUBRICANTS

Save Wear and Replacement

For lubrication counsel see your nearest Sinclair Representative or write direct to Sinclair Refining Company, 600 Fifth Avenue, New York 20, N. Y.



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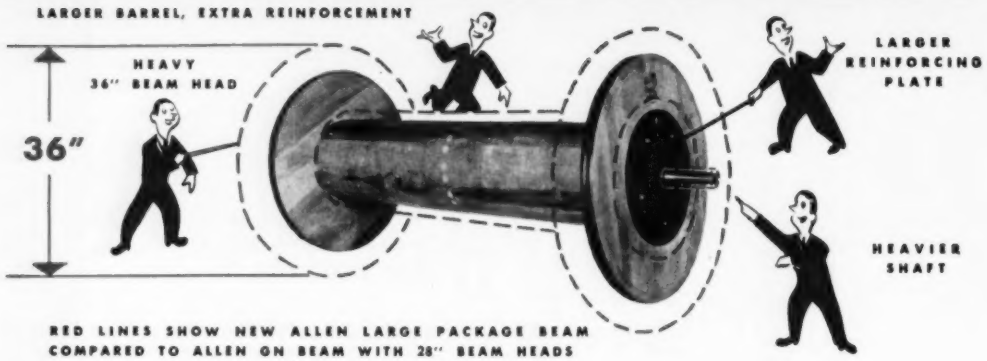
ALLEN *announces:*

A BEAM WITH 80% MORE CAPACITY



RED LINES SHOW NEW ALLEN LARGE PACKAGE BEAM COMPARED TO ALLEN ON BEAM WITH 28" BEAM HEADS

Fewer beams – less maintenance – less handling – longer runs without changeovers; *these are distinct savings with the new* ALLEN TYPE M LARGE-PACKAGE BEAM– *WITH GENUINE ALLEN BEAM HEADS.*

Allen offers its new large-package beam, made possible by time-proven Allen principles of construction. This beam successfully withstands the compression and end thrust of synthetic yarn build-up. It is engineered to "take" rough handling with these heavy loads. Specify these Allen beams with complete confidence — as always.

Send for Illustrated Booklet

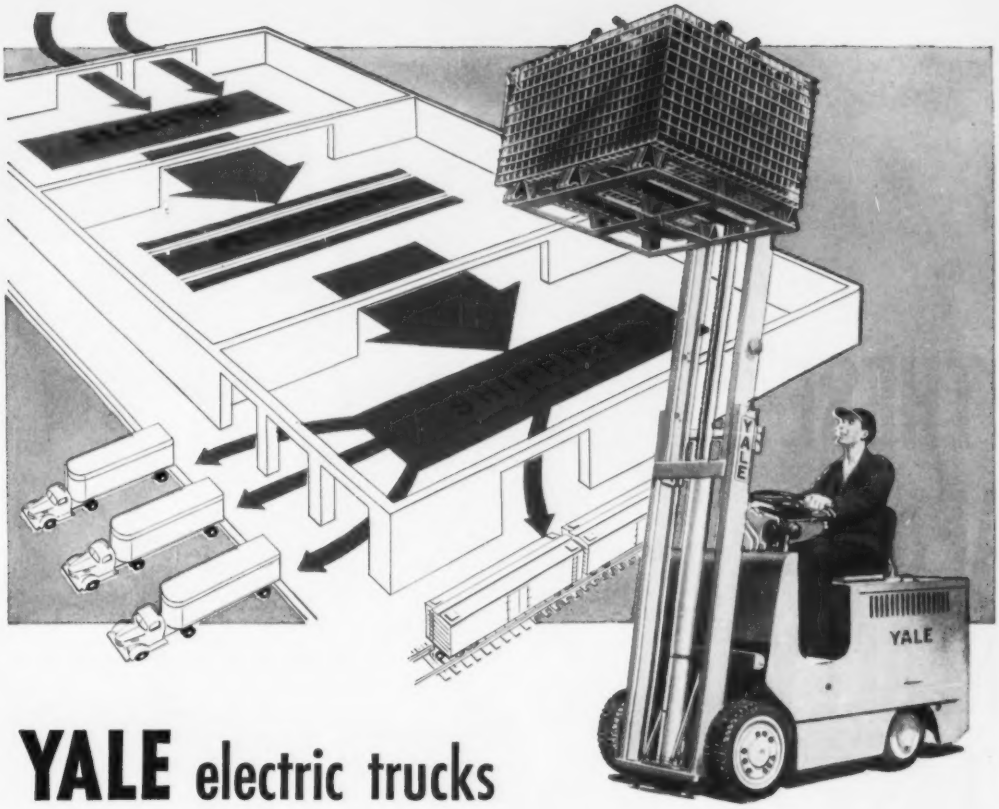
ALLEN
BEAM COMPANY
High Speed Warper Beams
Warper Beam Heads
Loom Beams
Adjustable Loom Beam Heads

General Offices – 151 River Road
New Bedford, Mass.

Representatives in all Textile Localities and all Principal Countries of the World.

"Good Warps are made on Good Beams"

For more information, write direct or use Reader Service post card.



YALE electric trucks travel this route longer—*for less*

THESE EXCLUSIVE YALE FEATURES KEEP TRUCK OVERHEAD DOWN

- Exclusive Hypoid Gears give greater drive power, longer drive life.
- Exclusive Involute Spline Drive Shaft, built for continuous resistance to wear-fatigue, outlasts all others.
- Special Rolled Lift Channels with lifetime sealed ball bearing channel rollers won't wear, won't spread — need never be replaced.
- Exclusive YALE design makes every part accessible for fast, cost-saving "minute-maintenance."

YOU CAN SAVE up to 75% of your production, receiving, shipping and storage handling costs with dependable, longer-lasting YALE Electric Trucks. Discover for yourself the *extra* savings YALE Electric Trucks can bring you—in operating, maintenance and replacement costs. Fill out and mail the coupon today.

YALE & TOWNE

The Yale & Towne Manufacturing Co., Philadelphia 15, Pa.

YALE is a registered trade mark of The Yale & Towne Manufacturing Co.

MAIL THIS COUPON TODAY

The Yale & Towne Manufacturing Co., Dept. 552
Roosevelt Boulevard & Haldeman Ave., Philadelphia 15, Pa.

I want the most from materials handling savings.

☐ Please send free detailed literature on the YALE ELECTRIC TRUCK.

☐ Please have your local Representative call on me.

COMPANY_____

NAME_____ TITLE_____

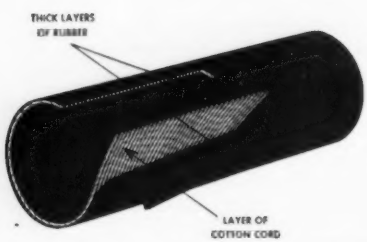
STREET_____ CITY_____ STATE_____

In Canada write: The Yale & Towne Manufacturing Co., St. Catharines, Ont.

YALE GAS AND ELECTRIC TRUCKS • YALE WORKSAVERS • YALE HAND TRUCKS • YALE HAND AND ELECTRIC HOISTS

THESE APRONS REALLY LAST...

you can run them for years



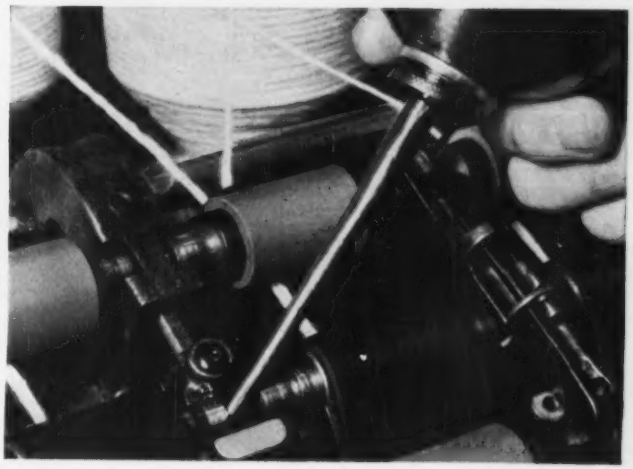
Here's an apron that on most frames will give six to eight years of trouble-free, two-shift service. At the end of that time, under normal conditions, Accotex® Aprons will still be smooth, flexible, and clean running.

What makes these aprons stand up so well? Simply this: Every Accotex Apron is made of special synthetic rubber in a patented three-layer construction. As you can see from the picture at left, they're made like a sandwich.

Their seamless outer layer is made of a synthetic rubber that runs clean and resists scuffing. It is specially formulated and treated for lifelong smoothness. The inner layer, also of seamless synthetic rubber, is highly resistant to abrasion. The middle layer is a sturdy cord reinforcement which prevents stretching or curled edges. It holds the shape of the apron. Vulcanized together, these three specialized layers make a tough, super-flexible apron with a satiny-smooth drafting surface.

No matter which long-draft system you use, you can get durable Accotex Aprons for your frames. Call your Armstrong representative for information or write Armstrong Cork Company, Textile Products Department, 8302 Arch Street, Lancaster, Pennsylvania. Available for export.

SATIN FINISH: Rub your fingers across the surface of an Armstrong's Accotex Apron. You'll discover it feels smooth as satin. Each Accotex Apron is ground to the exact thickness you specify and—by a patented process—given this smooth, scuff-resistant surface.



CLEAN RUNNING: Because Accotex Aprons stay smooth, don't absorb oil or soften from exposure to dyes and commonly used textile solvents, they have no tendency to pick up lint. They won't sweat under any mill condition. If you want a durable, clean-running apron, you can't beat Armstrong's Accotex Aprons. Try them on a test frame.

SUPER-FLEXIBLE: Armstrong's NO-750 Accotex Aprons have the extra flexibility and abrasion resistance needed on a single-apron frame. They hug the nose bar without buckling and so insure smooth slip-roll action. If you are considering new single-apron long-draft equipment, be sure to specify Armstrong's Accotex Aprons.

ARMSTRONG'S ACCOTEX APRONS

one of Armstrong's complete line of textile mill supplies

EX-CELL-O

... a great name in the
precision machine tool field!

Ex-Cell-O has been making precision parts to customers' specifications for close to 30 years. Today, these Ex-Cell-O products include parts for the textile industry . . . from spindles and various small parts to large assemblies. Ex-Cell-O has the facilities—machines, heat treat, assembly, and inspection—to produce your precision parts economically, in small or large volume, and in accordance with your delivery schedule. For a quotation, send a part blueprint to Ex-Cell-O Corporation in Detroit today.

Bulletin No. 26181 describes Ex-Cell-O's textile products. Write now for your free copy.

EX-CELL-O CORPORATION DETROIT 32

XLO
EX-CELL-O for PRECISION

FAST WETTING! FAST REWETTING!

With Superior

AHCOWET RS

A synthetic surface-active compound

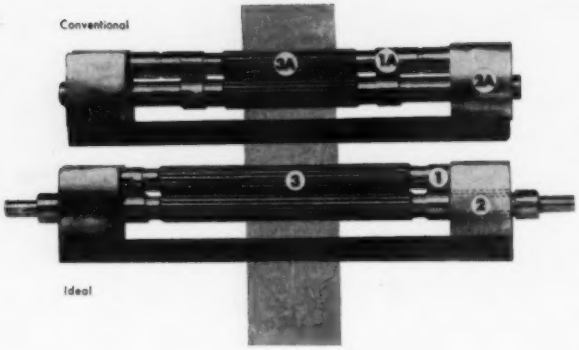
For full, quick, level penetration in wetting and rewetting operations, try AHCOWET RS!

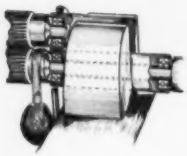
AHCOWET RS is extremely adaptable for padding operations and in preparing piece goods for compressive shrinking.

AHCO PRODUCTS

ARNOLD, HOFFMAN

ARNOLD, HOFFMAN & CO., INCORPORATED · EST. 1815 · PROVIDENCE, R. I.
Offices: Charlotte, Cincinnati, New York, Teterboro, Providence
Plants: Charlotte, N. C. · Cincinnati, Ohio · Dighton, Mass.





This Picture can be Worth $1,000.00 per Drawing Frame to you

This comparison between Ideal High Speed Drawing Units*and ordinary units shows why Ideal produces almost twice as much sliver, saves over 58% in maintenance costs, produces stronger and far more uniform roving, and nets you, during its lifetime, at least $1,000.00 per frame in operational savings alone.

Perfect Alignment and Synchronization

In ordinary units, the spacing collars (1A) transmit most of the power, and unequal wear starts almost immediately. This causes misalignment of rolls and unequal tension between roll sections . . . bruising and shearing the stock and causing thick and thin places in the sliver. Ideal spacing units (1) ride on ball bearings on the drive shaft and transmit no power, never wear, never cause misalignment or unequal tension between roll sections, and permit Ideal units to produce uniform stock at continuous high speeds.

No Friction or Wear on Bearings

The entire weight of ordinary rolls rests on this roll neck (2A). This causes wear and high power consumption. On Ideal units (2) the weight is supported by the outer housings of the spacing units (1) and no friction is transmitted to the necks, which run freely in the ball bearings. This permits smooth, quiet, high speed operation at extremely low cost for power.

Extra Width Hardened and Ground Fluted Section

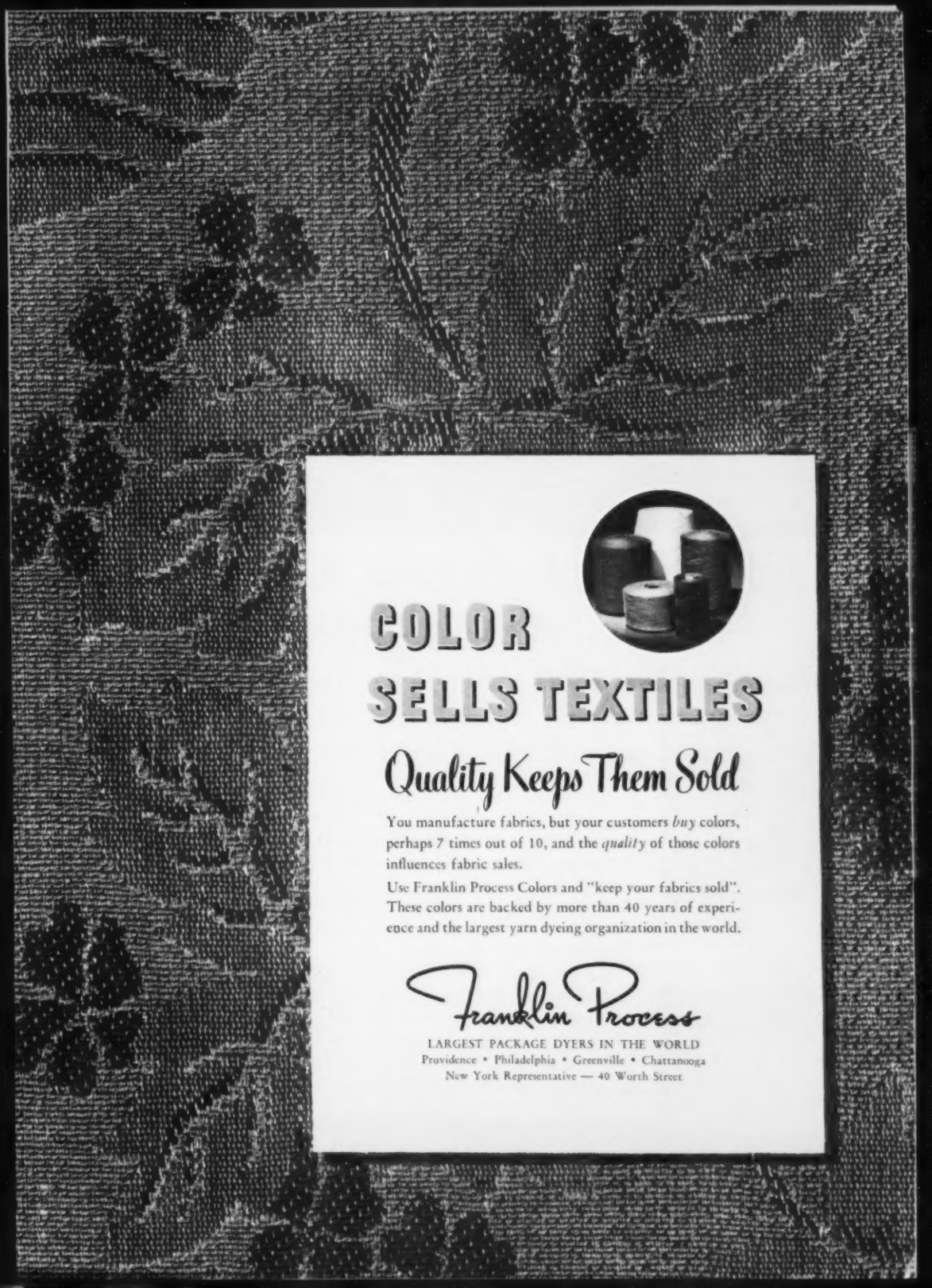
Ideal's 10½ inch fluted sections (3) can be operated with the conventional 6 to 10 ends up at back, or from laps 18 ends up, and can take 9 inch laps direct . . . far more versatile than the conventional 6 inch flutes (3A). Fluted sections are hardened and ground to prevent nicking, burring, lap-ups and work stoppages, and to assure better crimping action.

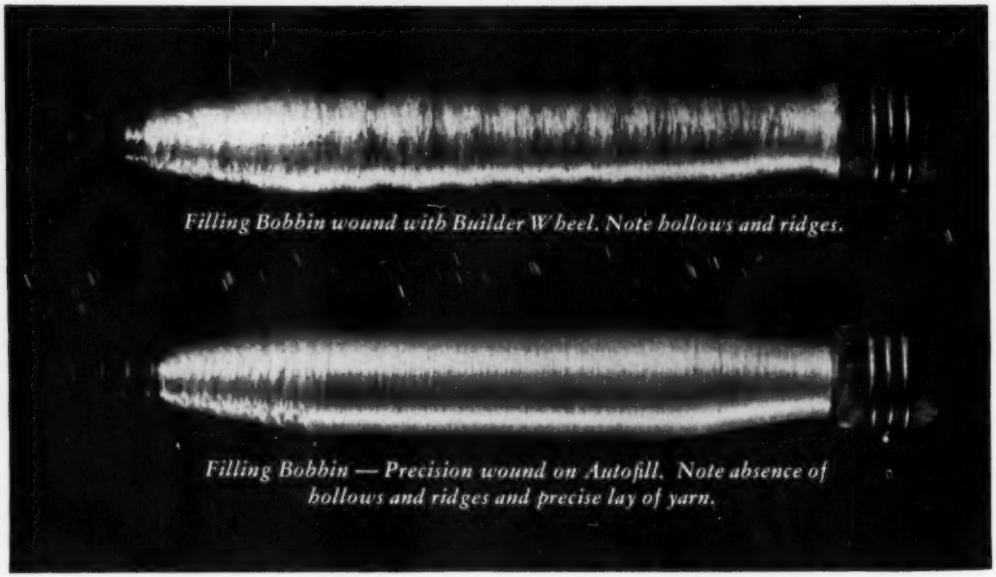
Ideal's superior construction permits higher sustained speeds and smoother operation, eliminates 90% of the ordinary downtime for frequent cleaning, removing nicks and burrs, and oiling; and cuts operating labor costs. Actual production records from some of the finest mills show that our claim of $1,000.00 savings in operating costs is conservative. Let us show you how you can profit by installing Ideal High Speed Ball Bearing Drawing Equipment in your mill.

Ideal Industries, Inc.
Bessemer City, N. C.

*Patented

For more information, write direct or use Reader Service post card.


COLOR
SELLS TEXTILES
Quality Keeps Them Sold
You manufacture fabrics, but your customers *buy* colors, perhaps 7 times out of 10, and the *quality* of those colors influences fabric sales.
Use Franklin Process Colors and "keep your fabrics sold". These colors are backed by more than 40 years of experience and the largest yarn dyeing organization in the world.
Franklin Process
LARGEST PACKAGE DYERS IN THE WORLD
Providence • Philadelphia • Greenville • Chattanooga
New York Representative — 40 Worth Street

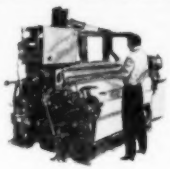


Filling Bobbin wound with Builder Wheel. Note hollows and ridges.

Filling Bobbin — Precision wound on Autofill. Note absence of hollows and ridges and precise lay of yarn.

The Foster-Muschamp Autofill Bobbin Will Save You Money

. . . AT THE LOOM

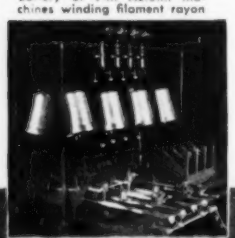


Particularly if You're Weaving Fine Denier Yarns

Winding filament rayon from parallel packages on the F-M Autofill

•

Battery of F-M Autofill Machines winding filament rayon



You can't afford to take chances *at the loom,* because "value added by manufacture" is approaching the peak at that point.

You can greatly improve the efficiency of your looms, economy in winding and the quality of your fabrics, by winding your filament filling yarns on the Foster-Muschamp Autofill — completely automatic. This machine uses gears, instead of a builder wheel, to control the lay of the yarn on the bobbin. It produces a bobbin which is exceptionally free of broken filaments, ridges and hollows. The Autofill bobbin delivers with precision in the loom, because it is a precision wound product. Results — better weaving at less cost — more production — fewer rejects.

You want these benefits no matter what you're weaving and can get them with the Autofill. However, they're particularly important if you're weaving fine denier yarns, such as 30 denier nylon. In such cases, because your materials cost is high, losses due to damage become astronomical.

Get all the facts regarding Foster-Muschamp Autofill — the completely automatic precision filling winder. Send for bulletin M-1 to-day.

FOSTER MACHINE COMPANY

Westfield, Mass., U. S. A.

Southern Office — Johnston Bldg., Charlotte, N. C.

all 4 advantages you want

in a fluorescent lampholder...

exclusive with Benjamin...*yours at no extra cost!*

In a fluorescent lampholder, the four advantages you want most... the four features that you would include were you designing a lampholder of your own... are *yours* with Benjamin "Springlox." Benjamin brings you this exclusive, patented advancement at no additional lighting equipment cost!

These four most-wanted features bring you everything you require of a fluorescent lampholder: longer life, better electrical contact, speedier relamping and all-around simpler, quicker, safer lighting maintenance.

You get these four most-wanted features exclusively with Benjamin. They are yours as "standard equipment" with every Benjamin Industrial Fluorescent Lighting Unit, whether it uses two T12 lamps or three, bi-pin or single-pin lamps, for individual units or continuous line construction.

*Exclusive with all** BENJAMIN FLUORESCENT UNITS

BENJAMIN "Springlox" lampholders

sold exclusively through electrical distributors

1 **"Built to take it" RUGGEDNESS** Practically indestructible ALL-METAL construction. NO BREAKAGE... NO out-of-service time due to socket failure. Lamps CUSHIONED against shock and vibration.

2 **SAFETY** Whether installed in a steel mill or office, lamps cannot drop out or be shaken loose, because "Springlox" is SELF-ADJUSTING for slight differences in lamp length.

3 **"Quick-in, quick-out" LAMP SERVICING** Makes lamp servicing simpler for all T12 fluorescent lamps. "Finding ring" makes possible "ONE-HAND" lamp insertion of bi-pin lamps.

4 **"Never-fail" ELECTRICAL CONTACT** Never fails to make contact the *first time*. "Easy-make, easy-break" circuit switch built into single-pin type. Separate springs for electrical contact and locking COMPRESSION.

Bi-pin type "Springlox" for 2 or 3 lamps

transparent view of "push end" shows how flexible spring base simplifies lamp insertion.

Single-pin type "Springlox" for 2 or 3 lamps

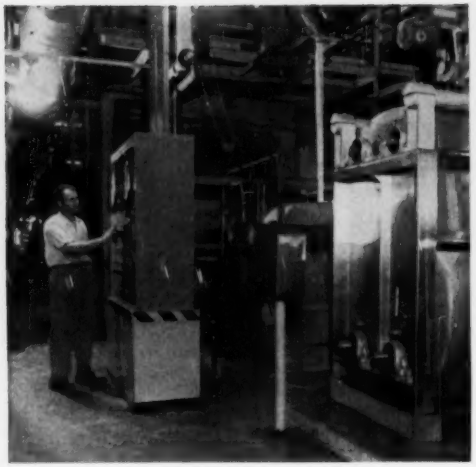
*"Springlox" lampholders are designed to accommodate all T12 Lamps for industrial use.

Send for **FREE "SPRINGLOX" DATA BULLETIN!** Tells you more about time and labor savings made possible by "Springlox"-equipped Benjamin Fluorescent Lighting Units. For your free copy, write Benjamin Electric Mfg. Co., Dept. EE, Des Plaines, Ill.

MOBILIZE LIGHTING KNOWLEDGE TO ADVANCE AMERICA'S WELFARE
4th International LIGHTING EXPOSITION and CONFERENCE CLEVELAND MAY 6 to 16 1952

R-5680E

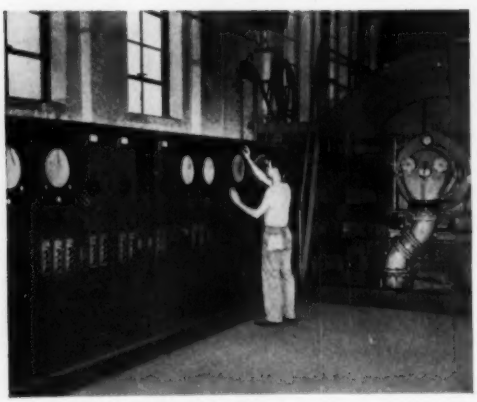
HOT DIP *tin house in large eastern steel mill uses ElectroniK instruments to control metal and palm oil temperatures . . . in adjacent departments, the same instruments control huge electrolytic tin lines, insuring quality tinplate and minimum use of the strategic metal.*



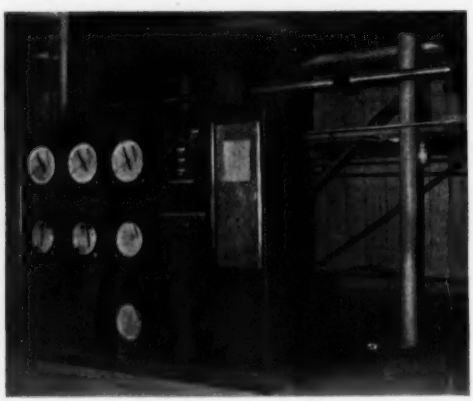
COORDINATION *of speeds, temperatures, pressures, flows and other variables . . . through modern instrumentation . . . makes possible the stabilization of continuous textile bleaching, and results in greater overall production in such a modern installation as this.*

For all of industry . . . *especially*

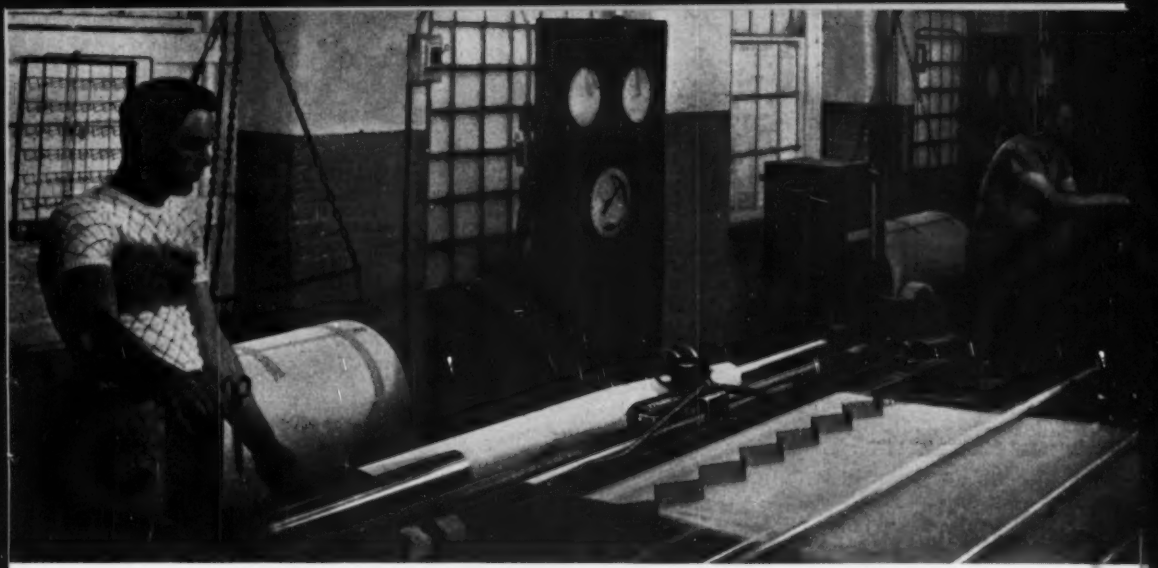
Instruments



ONE MAN BLEACH PLANT, *with the best equipment and controls, produces 130 tons of bleached pulp per day. The plant runs so smoothly that the operator also has time to make hourly tests on bleach liquor and bleached pulp.*



CITRUS CONCENTRATORS *at Pasco Packing Company plant turn out 1250 gallons of high quality concentrate per hour. One man supervises operations . . . aided by Honeywell automatic control system which regulates raw juice flow, heat input, and density of finished product.*



A 25% INCREASE IN PRODUCTION *was effected in this slasher room at Startex Mills with the help of Brown instruments and equipment modification. Plus values are the savings in floor space and operating costs.*

for the textile industry

speed production

THE PRESENT and future progress of the Textile Industry is closely associated with the rate of technological advances which can become production realities . . . and they, in turn, are depending more and more upon the ability of modern instrumentation to help keep pace with demands.

Greater production cannot be at the expense of quality . . . it must join hands with such desirable end results as more weavable warp, faster dyes, and lighter weight fabrics. In the installation pictured above, controlling the moisture content of warp yarn affords greater weaving efficiency . . . which means fewer loom stops and, therefore, increased production. Closely related, of course, is the all-important trend toward lower costs and a favorable competitive position.

The complete line of Brown instruments and controls serves the machine operator with accuracy, speed and dependability in keeping with the standards of performance it has set for the textile scientist in his development program.

Our local engineering representative will welcome the opportunity to discuss all of your instrumentation requirements . . . and he is as near as your phone.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 4509 Wayne Ave., Philadelphia 44, Penna.

MINNEAPOLIS
Honeywell
BROWN INSTRUMENTS

First in Controls

● *Important Reference Data*

Write for a copy of new brochure, "Tomorrow is Today"... for a brief description of the manifold contributions of instruments to industrial processing.

They did

This North Carolina mill saw the advantages to be gained in terms of increased production and reduced costs through a modernized drive.

what

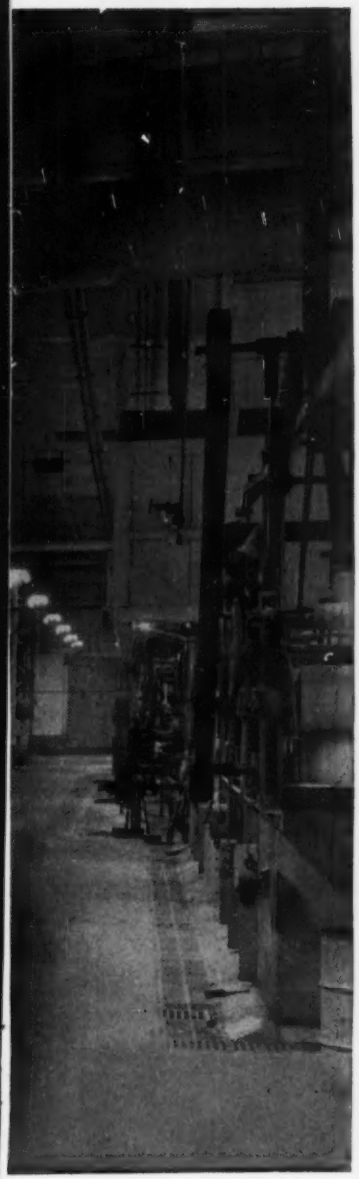
They called in their Westinghouse representative early in their plans to get the benefit of Westinghouse experience with similar installations.

you can do

Do what hundreds of other textile firms are doing. Have Westinghouse work with your engineers and the machinery builder in the application of drives and other equipment to your plant.

to produce more

Whether it's a new drive like this, more dependable and efficient electrical distribution, better servicing or simply the application of a piece of electrical equipment to a tough job, Westinghouse has the answer.



Choose *matched drives* for your finishing machines

That *extra* productive capacity that you want from your finishing machines often depends on "matching" the electrical drive to the textile process and productive requirements of each machine.

Extra production, for instance, can be obtained by running the range at the highest speed that the process and machine will permit. Westinghouse has designed drives that are operating ranges at 375 ypm.

High quality frequently depends on precise speed and tension control. *Low maintenance* is a result of well designed apparatus and the simplest system practical. *Reduced man-power requirements,* particularly important today, depend on the degree of automatic control. This also reduces the human judgment element and helps raise quality. *Versatility,* which permits operating individual sections of a range independently if desired, can be worked into the control system. All of these factors are functions of the drive.

That's why it's important to get a drive that is "matched" to your requirements. This can take the form of a "packaged drive" or of separate components mounted as desired. That's why Westinghouse recommends a thorough study of all factors before a drive is selected.

Your Westinghouse representative will be glad to help with your drive requirements . . . and he is backed by engineers and textile specialists with years of experience in the application of these drives to textile mills. They'll be glad to work with you and your finishing machinery builder on new drive requirements.

NEW FREE BOOK

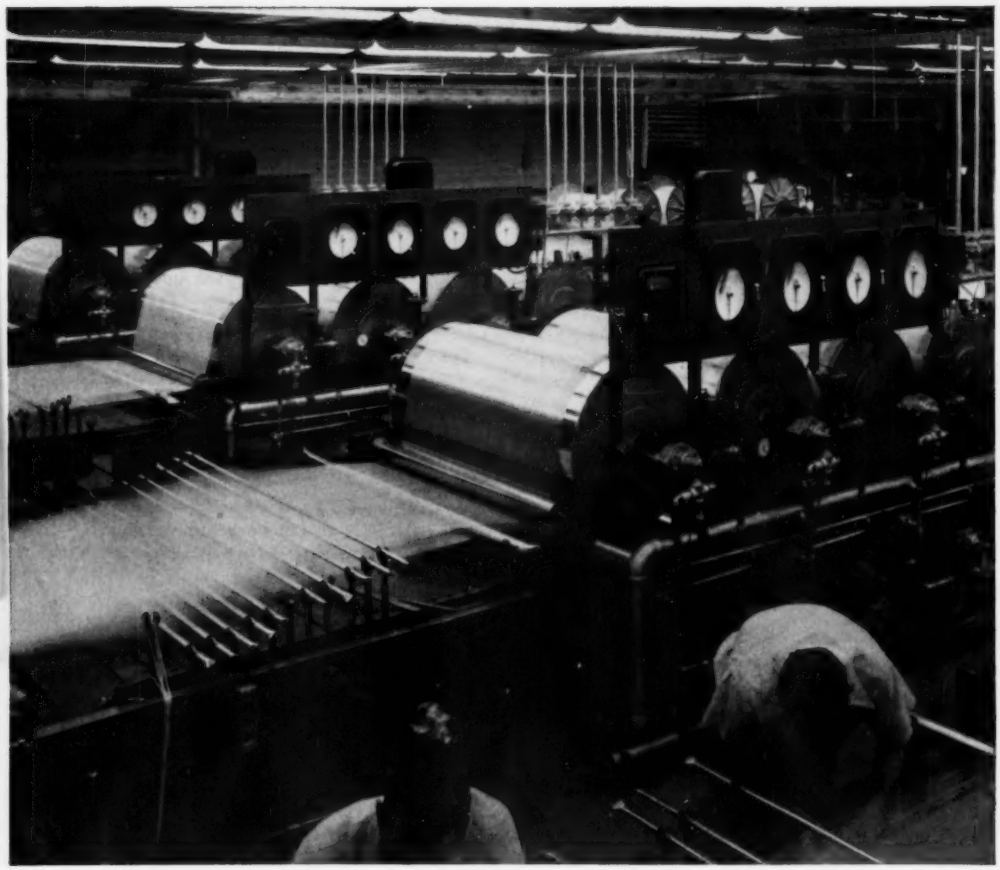
Here's help, too—this 32-page book gives you factual information about Westinghouse finishing drives. Tells about tension control, cost factors, speed range, operating economies, maintenance features and other vital points. Write for Booklet B-4034, "Westinghouse Equipment for Textile Finishing". Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pennsylvania. J-94843

YOU CAN BE SURE... IF IT'S Westinghouse

EQUIPMENT FOR TEXTILE PRODUCTION

100% TAYLOR

Greenwood Mills



Taylor keeps 4 Cocker High Speed Slashers under accurate control, *regardless of operating temperature requirements.* Control of condensate gives closest possible relationship to cylinder surface temperature. Taylor's system of quick, automatic heat-up eliminates time lost waiting for traps to empty.

Taylor FULSCOPE* temperature controllers on the size cooking and storage kettles assure uniformly prepared size, and prevents excessive dilution due to over cooking. The result is a constantly uniform size delivered to slashers. Pumps shown pump size from cooking kettles (off picture to the right) to storage kettles on a platform above.

*Registered Trade-Mark

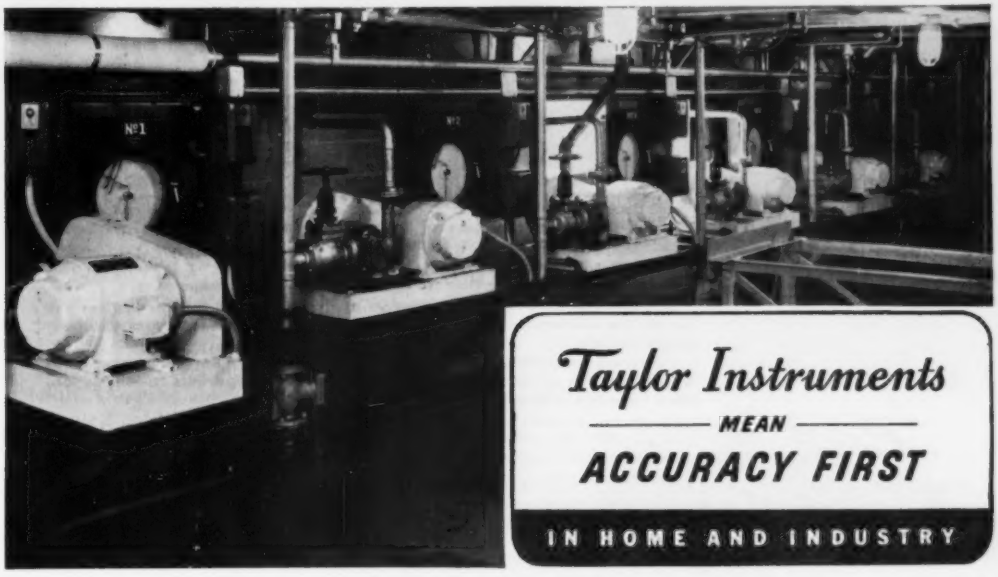
CONTROL *at new Harris, S.C., plant*

Greenwood Mills new filament rayon weaving plant at Harris, S. C., is a model of efficiency in every detail . . . architecture, layout, and equipment. To assure the maximum return on the new plant investment, automatic controls are used extensively in all phases of slashing . . . all of them Taylor made. Shown here are two of many operations where Taylor controls are keeping costs down, and assuring uniform product, with minimum operator attention.

For getting peak performance from new textile equipment, or increasing the efficiency of equipment you already have operating, you just can't beat Taylor control on every slashing phase: **size cooking, storage kettle temperature control, size box level and temperature control and slasher cylinder temperature control.** Ask your Taylor Field Engineer to show you how Taylor controls can save you money, both in operating expense *and* in more uniform product with far fewer rejects. Or write: Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

• •

Instruments for indicating, recording and controlling temperature, pressure, flow, liquid level, speed, density, load and humidity.



Century Textile motors are ruggedly built for long service life.

TEXTILE MOTOR SHEDS LINT

-077

- STREAMLINE DESIGN
- COOLING AIR FLOW

Smooth clean air passages permit cooling air to enter the motor through the end brackets. This steady blast of air circulates near the bearings, around the windings and out through the adequate air passages in the frame.

Lint and textile dust pass through the motor readily, without clogging. This results in clean radiation surfaces, which means that the motor operates at normal temperature.

Century Ball Bearing Textile Motors are lubricated at the factory for the life of the lubricant — under normal service, this is several years without re-lubrication.

However, evaporation or oxidation due to high temperature determines the ultimate life of the lubricant. Century construction permits re-lubrication, when required, without dismantling.

In addition to textile motors, Century builds a complete line of electric motors in sizes from ⅛ to 400 horsepower. They are available in open rated drip proof, splash proof, enclosed fan cooled and explosion proof frames to meet any atmospheric hazard.

For complete information, including dimensions and prices, write today.

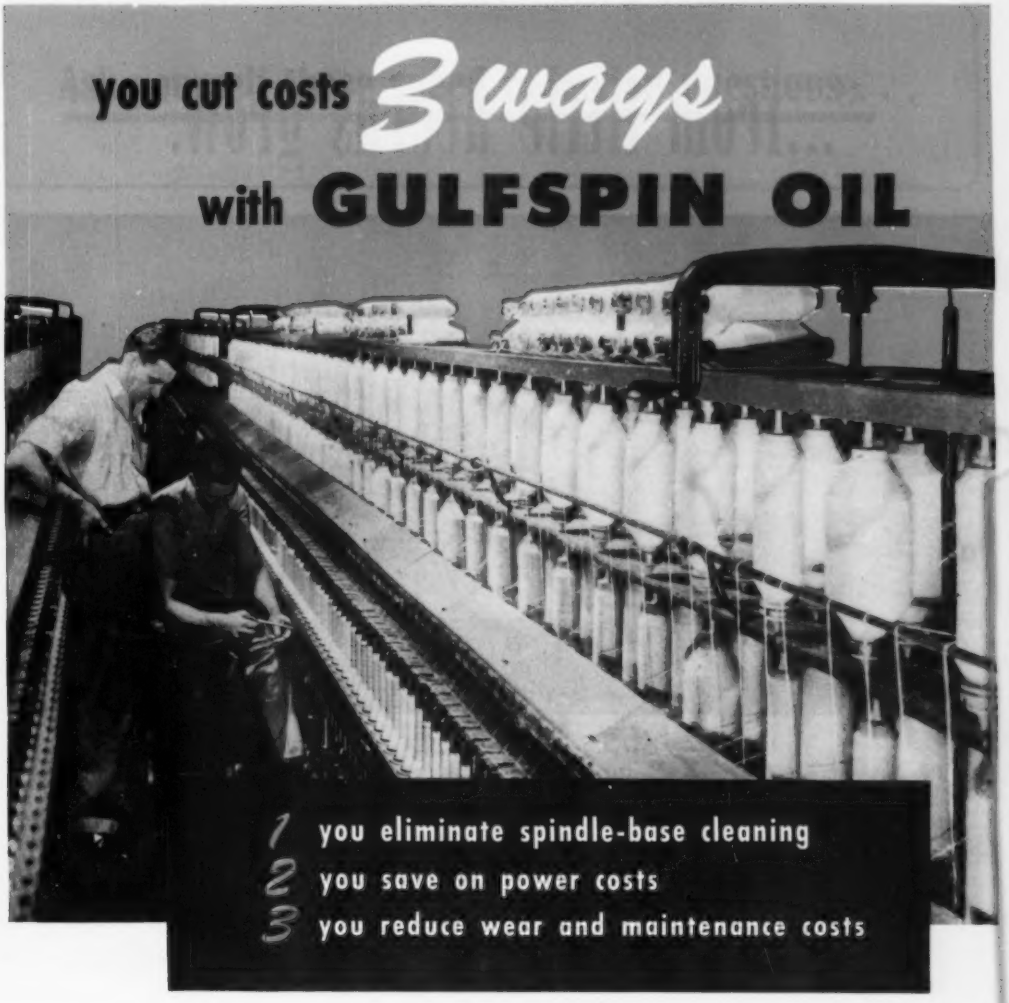
Century C MOTORS

CE-577

CENTURY ELECTRIC COMPANY

1806 PINE STREET, ST. LOUIS 3, MISSOURI • OFFICES AND STOCK POINTS IN PRINCIPAL CITIES

you cut costs 3 ways with GULFSPIN OIL



Spindle blades and bolsters stay clean when they are lubricated with the new Gulfspin. Here is the important reason: Gulfspin not only has the inherent ability to resist the formation of harmful products of oxidation, but also prevents their deposit on spindle surfaces.

Thus the need for costly cleaning of spindles and bolsters is eliminated — parts wipe clean easily. And the absence of sludge helps prevent spindle hunting, lagging, and vibration. Result: reduced end breakage, lower maintenance costs.

Gulfspin, unlike conventional spindle oils, does not appreciably increase in viscosity even after extended use. This accounts for reports from users telling of substantial savings in power costs.

Gulfspin also has excellent oiliness characteristics. In cast iron bolsters it reduces the wear rate experienced with ordinary oils, insures freedom from spindle wobble.

See for yourself — on your frames — that this new spindle oil is better in every way. Write, wire, or phone your nearest Gulf office today.
Gulf Oil Corporation · Gulf Refining Company
Gulf Building, Pittsburgh 30, Pennsylvania

GULF INDUSTRIAL LUBRICATION

"...from little acorns grow."

1931 1951

In this our twentieth anniversary year, may we express to our friends in the textile industry, our heartfelt thanks and our humble appreciation for your friendship, understanding and loyal support that has made our growth possible. To you we are sincerely grateful.

Meadows
MANUFACTURING COMPANY
ATLANTA

QUALITY...BACKED BY A DESIRE TO PLEASE

Ask yourself these speed reduction questions . . .

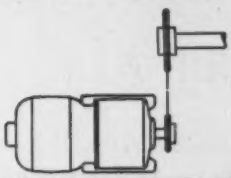
1 Do I want high-ratio reduction with right-angle takeoff?

Drawing shows motorized P.I.V. variable speed and worm gear drives direct-coupled.

Then your answer is a LINK-BELT Worm Gear Drive

Reduction ratios: 3.1:1 to 8000:1
Torque: 1,400 to 123,000 in. lbs.
Output shaft rpm: 0.22 to 564

2 Is space at a premium?

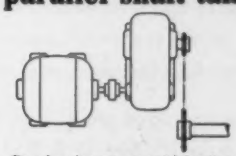


Drawing shows gearmotor with roller chain drive.

Then your answer is a LINK-BELT Gearmotor

Reduction ratios: 6.2:1 to 292:1
Hp range: 1 to 30
Output shaft rpm: 6 to 280

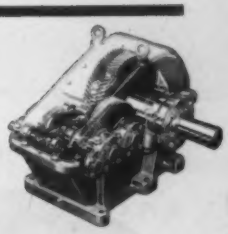
3 Will I need high hp capacity with parallel shaft takeoff?



Drawing shows motor with herringbone gear and roller chain drives

Then your answer is a LINK-BELT Herringbone Gear Drive

Reduction ratios: 2.84:1 to 318:1
Hp range: ½ to 1000
Output shaft rpm: 2 to 600



Yes, LINK-BELT builds all 3

WHATEVER factor governs your speed reducer selection—ratio, space, shaft position, shock loading—you can get the exact answer to your needs from Link-Belt's complete line of enclosed gear drives.

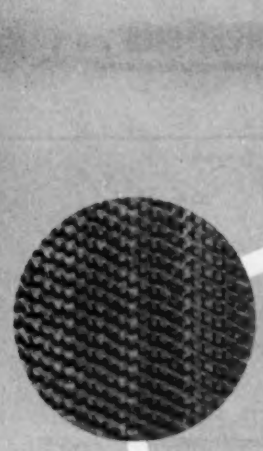
For Link-Belt builds a full range of sizes and ratios in all three types—Helical, Herringbone and Worm. When a Link-Belt power transmission engineer analyzes your conditions, he can recommend the specific drive to meet your specialized requirements.

For complete information, call the Link-Belt office near you.

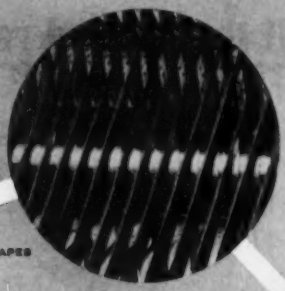
LINK-BELT

ENCLOSED GEAR DRIVES

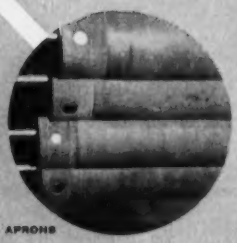
LINK-BELT COMPANY: Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa). Offices, Factory Branch Stores and Distributors in Principal Cities. 12,000



CARD CLOTHING



TAPES



RUBB APRONS

it takes all four

Cards, clothing, tapes, and rubb aprons cannot, by themselves, make woolen yarn. It takes an engineered use of the four.

And it makes common logic, too, to buy this equipment, all of it, from a firm whose reputation is based on the successful operation of not just one, but all four components of carding.

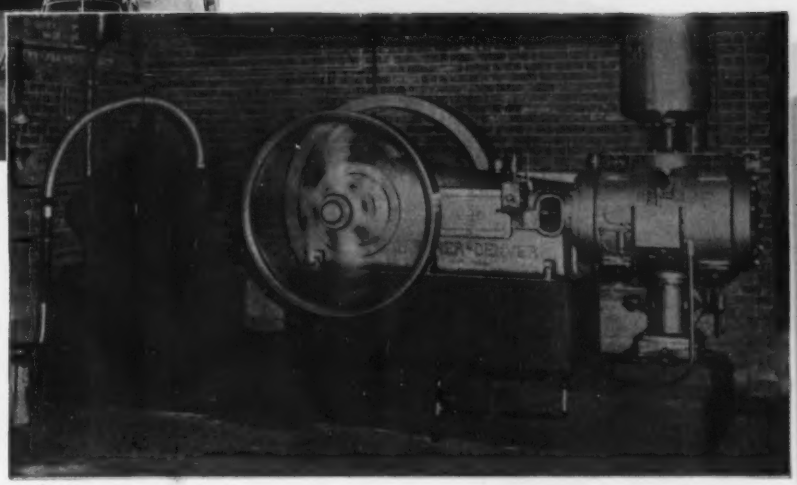
It takes all four . . . and we sell all four. Buy "complete carding." Buy D & F equipment throughout.

DAVIS & FURBER
MACHINE COMPANY

North Andover • Mass.
Charlotte • North Carolina

CARD CLOTHING • TAPES
RUBB APRONS • CARDS

Unrestricted Flow



Gardner-Denver RX Single-Stage Compressors are made in a wide range of sizes to assure the right pressure and capacity for your needs.

...another reason why GARDNER-DENVER RX compressors save you money!

Free and easy! That's the way air flows through the large, unrestricted valve and port areas in the Gardner-Denver RX Compressor. That means the RX uses less power to supply the compressed air you need—and there you have one of the big reasons why an RX costs less to operate.

Other money-saving RX features include the dust-tight, heavy-duty power end—automatic lubrication—and "Air-Cushioned" Duo-Plate valves. Write today for additional information.

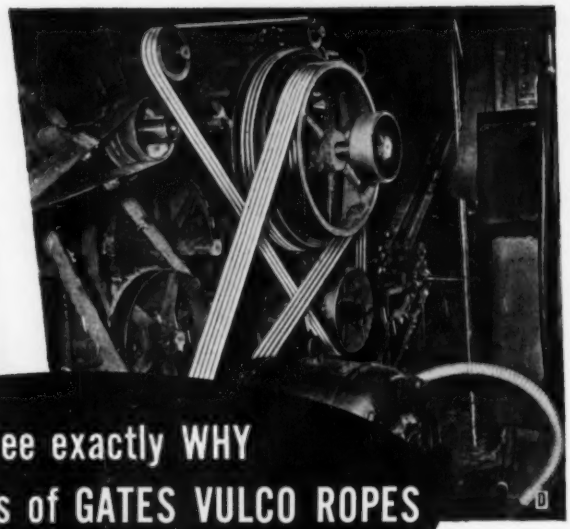
SINCE 1859

GARDNER-DENVER

Gardner-Denver Company, Quincy, Illinois
In Canada: **Gardner-Denver Company (Canada), Ltd., Toronto, Ontario**
Atlanta, Ga.; Birmingham, Ala.; Knoxville, Tenn.; Washington, D. C.
New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; New Orleans, La.

THE QUALITY LEADER IN COMPRESSORS, PUMPS AND ROCK DRILLS

Gates Vulco Ropes—replacing flat belts on this Garnett machine—saved Bender Bros., Inc., of Camden, N. J. over $1,000 a year in maintenance expense.



Let's see exactly WHY the Concave Sides of GATES VULCO ROPES mean lower V-Belt Costs!

Every engineer knows how a V-belt *changes shape* when it bends around a pulley.

The top of the belt is under tension—making it grow *narrower.*

The body is under *compression,* causing the sides to bulge out!

Look at figure 1-A in the diagrams, herewith. There you see how a *straight sided* V-belt is forced to bulge in its sheave-groove—and this bulging naturally causes extra wear along the middle of the sides as indicated by the arrows.

Now look at the figure 2-A. There you see how the precisely engineered Concave Sides fill out to an exact fit in the sheave groove.

Clearly, the Concave Sides press *evenly* against the V-pulley. This means uniform wear; longer life! The Concave Sides have *full traction;* wear longer because of *full contact!*

To sum up: The Concave Sides of Gates Vulco Ropes (U.S. Patent No. 1813698) give you (1) Less wear, (2) More pulley contact, (3) More sure power transmitted when needed!

Only V-belts made by Gates are built with concave sides. Whenever you buy V-Belts, be sure you get the V-Belt with the Concave Sides—The Gates Vulco Rope!

What Happens When a V-Belt Bends

Straight-Sided V-Belt

Fig 1

Fig 1-A

How Straight-Sided V-Belt Bulges in Sheave-Groove. Sides Press Unevenly Against V-Pulley Causing Extra Wear At Point Shown by Arrows.

Gates Vulco Rope with Concave Sides

Fig 2

Fig 2-A

The Concave Sides Fill out to a Precise Fit in the Sheave Groove. No Side Bulge! Sides Press Evenly Against the V-Pulley—Uniform Wear—Longer Life!

CS-521

World's Largest Maker of V-Belts

Gates

Hose V-Belts Molded Rubber Goods for Industry

VULCO ROPE DRIVES

ENGINEERING OFFICES AND JOBBER STOCKS IN ALL INDUSTRIAL CENTERS

THE GATES RUBBER COMPANY • DENVER • U•S•A

Standard's new taffeta finish

stands Up and Out

All indications point to the continued popularity of taffetas as a high style item.

For that dry, crisp, swishy taffeta hand, from papery thin to pleasing softness, Standafin T Conc. provides the answer in finishing of taffetas, failles, shantungs, etc. Slip-proofing with no mark-off or effect on shade or luster are added features imparted by Standafin T Conc.

Application is made from an aqueous bath on conventional finishing equipment such as a quetsch or padder. No curing is required.

Our technical staff will be glad to demonstrate the advantages of using Standafin T Conc. for your taffetas.

STANDARD CHEMICAL PRODUCTS, Inc.

1301 JEFFERSON STREET, HOBOKEN, NEW JERSEY

Chattanooga, Tenn. • Paterson, N. J. • Providence, R. I. • Salisbury, N. C.
Sunbury, Pa. • Sacramento, Cal. • Greensboro, N. C. • Leaksville, N. C.

Manufacturer of: Pyrotex — Standapol* — Stanteosine — Retardine* — Standafin — Stantex*

*Reg. U. S. Pat. Off.

TUFFER CYLINDER CLOTH
the finest Card Clothing Foundation on the market

A Tuffer Tension Regulator and Motor Drive as used in the illustration greatly simplify the work of clothing a roll. It does a smoother job and saves much time and money.

One of the reasons our customers get such good results from TUFFER Card Clothing is because of the unique construction of the TUFFER Cylinder Cloth.

This foundation is made of four plies of specially designed fabrics carefully woven. They are bonded together with oilproof adhesive in our special way which gives you a strong foundation, yet pliable enough to promote the proper carding action of the wires when on your card.

TUFFER Cylinder Cloth was developed and patented by Howard Bros. after many years of research. A trial will convince you that it is the finest foundation available. Our complete line of foundations for card clothing includes wool face, felt face and rubber faces and specialties.

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

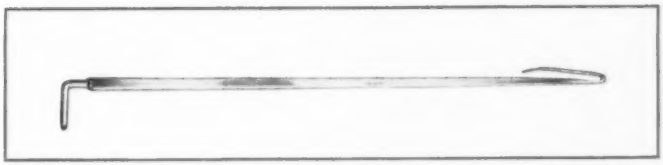
Southern Plants: Atlanta, Georgia and Gastonia, N. C. **Branch:** Philadelphia, Pa.

Direct Representation in Canada

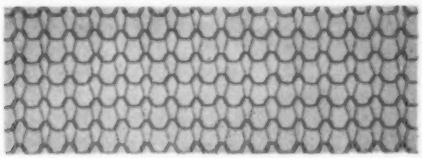
A-4

. . . IT PAYS TO SPECIFY TUFFER CARD CLOTHING

it's the needle



that makes the stitch



that makes the stocking

Next time you're re-needling, try TORRINGTON NEEDLES and discover for yourself the superior quality that only world-famous, machine-made, machine-tested TORRINGTON NEEDLES provide.

THE TORRINGTON COMPANY, Torrington, Conn., U. S. A.
Established 1866

Branches: New York • Philadelphia • Chicago • Greensboro, N. C. Boston • St. Louis • Toronto, Canada • *Pacific Coast Representative:* E. G. Paules, 1762 West Vernon Ave., Los Angeles 37, Calif. Broadgate House, 7-10 Eldon St., London, E.C. 2, England

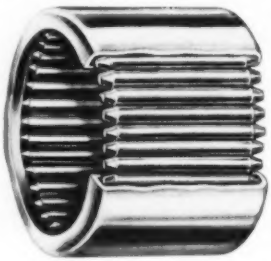
TORRINGTON

SPRING BEARD NEEDLES • SINKERS • DIVIDERS • SPLIT DIVIDERS

where small size pays off...

If you have a product where small size is both a big advantage and a big problem—consider the use of Torrington Needle Bearings.

A full complement of small diameter rollers permits the distribution of loads over a large area. Needle Bearings have a smaller O.D. in relation to capacity than any other type of anti-friction bearing. Both civilian and military products can benefit from this and other Torrington Needle Bearing features. Ask our engineers to give you a helping hand.



THE TORRINGTON COMPANY
Torrington, Conn. South Bend 21, Ind.
District Offices and Distributors in Principal Cities of United States and Canada

TORRINGTON *NEEDLE* BEARINGS

Needle • Spherical Roller • Tapered Roller • Straight Roller • Ball • Needle Rollers

12 times faster!

Grades 1000-foot sample of yarn in 3 minutes!

• With the Uniformity Analyzer, originally designed by the Institute of Textile Technology, you can check and grade the uniformity of yarn, roving, or sliver at high speeds. Using the recommended sample for accurate measurement—about 1000 feet—you can make the check in a little over 3 minutes, compared to 40 minutes for other methods.

The answer is given to you completely—in writing. In addition, the operator has a meter, which indicates average wool or cotton count or percentage non-uniformity.

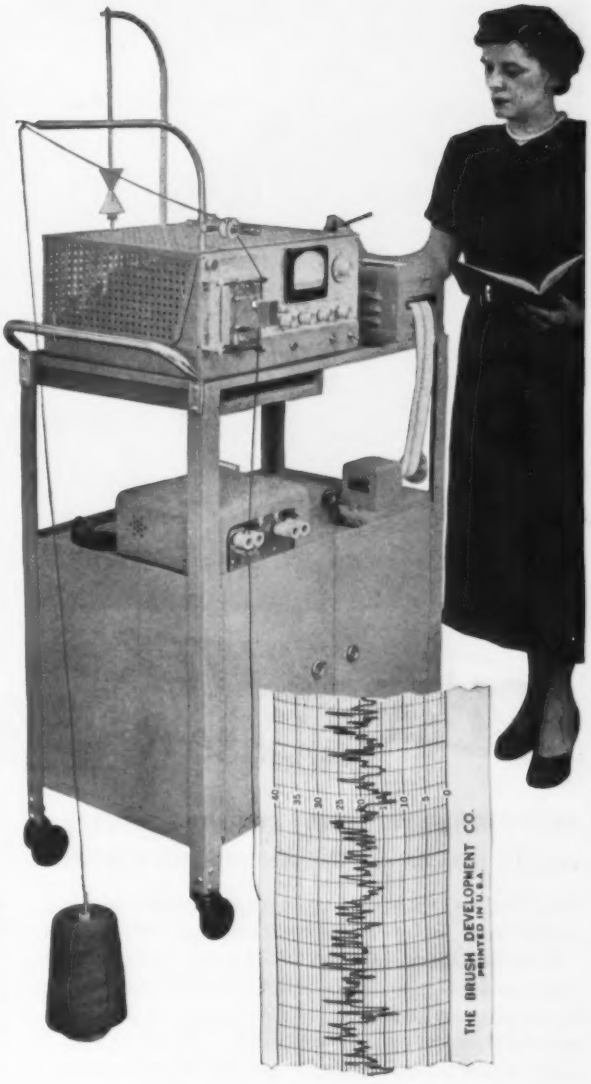
CHECK THESE FEATURES OF THE UNIFORMITY ANALYZER!

HIGH GRADING SPEED
HIGH ACCURACY
3 AVERAGING CIRCUITS
SIMPLE SERVICING
ECONOMY

The Uniformity Analyzer is designed for sustained high accuracy regardless of speed. A zero line is recorded on the graph, when no material is being checked, thus reducing drift errors and change in average yarn count. With the zero line recorded, the operator knows the true mean of the yarn sample. Guesswork is eliminated. Three averaging circuits make it easy to spot periodic faults in the yarn. Long-term variations are apparent.

The Uniformity Analyzer is sold and serviced through regular Brush instrument representatives located throughout the U. S. Spare parts and technical assistance can be obtained readily.

Take the first step now for better quality control . . . write The Brush Development Company, Dept. GG23, 3405 Perkins Avenue, Cleveland 14, Ohio. Canadian Representatives: A. C. Wickman Limited, Toronto.



This chart records non-uniformity of a 25-count cotton yarn. Chart indicates 49.9% gross deviation from nominal weight per unit length. The Uniformity Analyzer is calibrated for cotton or wool, as specified, and can be adapted for other materials.

THE **Brush** DEVELOPMENT COMPANY

BRUSH

Put it in writing... fast! with a Uniformity Analyzer

PIEZOELECTRIC CRYSTALS AND CERAMICS • MAGNETIC RECORDING • ELECTROACOUSTICS • ULTRASONICS • INDUSTRIAL & RESEARCH INSTRUMENTS

STAYS WHITER because it STARTS WHITER!

INTERIOR SURFACES STAY CLEANER..LONGER ..WITH KEM SAVE-LITE..THE WHITER WHITE!

How long white paint *stays* white—and *how* white it stays —depends, in part, on *how white it is to start with.*

Sherwin-Williams KEM SAVE-LITE Finishes for mill interiors cut upkeep costs because their brilliant whiteness both starts higher and stays higher in light reflection value. These facts are borne out not only in laboratory tests, but in year-after-year experience in leading textile mills the country over.

Test KEM SAVE-LITE for yourself against any conventional mill white finish. See the difference—in initial whiteness—in hiding power—in greater covering capacity. Call your Sherwin-Williams representative for a demonstration, or write The Sherwin-Williams Co., Cleveland 1, Ohio. (Division offices, Charlotte, N. C. and Boston, Mass.)

Types to Meet Varying Requirements

Sherwin-Williams Save-Lite is supplied in several types to meet varying operating conditions, both in oil type (Save-Lite) and synthetic (Kem Save-Lite). Gloss finish gives extreme ease of cleaning; Eg-Shel greatest diffusion and reflection of light. Fume and moisture-resisting types give added resistance where chemical fumes, moisture and heat are encountered.

SHERWIN-WILLIAMS
INDUSTRIAL MAINTENANCE FINISHES

SAVE-LITE MILL WHITE • COLOR HARMONY FINISHES
MILL VILLAGE PAINTS

It levels the path of power!

Six rubber balls are the connecting link between driving and driven unit. With the resiliency that only rubber can supply, they dampen the shocks of sudden starts and stops, and reduce or eliminate pulsation or other vibration-causing condition. They add life to the equipment they serve.

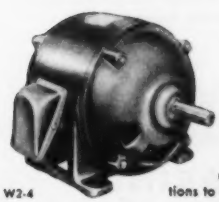
The rubber balls are tough, resilient, and long-lived. If or when necessary they can be quickly pushed out and replaced without dismantling the coupling or disturbing alignment.

With this coupling you get not only great shock abosorbing capacity and positive drive without slippage, but also freedom from noise, vibration, and the need for lubrication or other maintenance. Full details in the C-W Coupling Bulletin at request. Address Elliott Company Dept. TW, Jeannette, Pa.

ELLIOTT Company
CROCKER-WHEELER DIVISION
AMPERE, N. J.

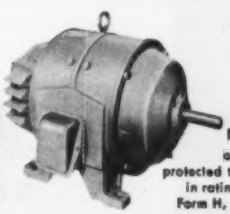
BRANCH OFFICES AND REPRESENTATIVES IN PRINCIPAL CITIES
ELLIOTT *Approved* SERVICE SHOPS COVER THE COUNTRY

A FITTING COMPLEMENT TO ELLIOTT C-W MOTORS

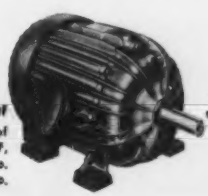


W2-4

SQUIRREL-CAGE PROTECTED FORM BA
Open dripproof motor for general use. Many modifications to meet special needs.



DC DRIPPROOF
and dripproof protected types Form F, in ratings to 7½ hp. Form H, 10 to 200 hp.

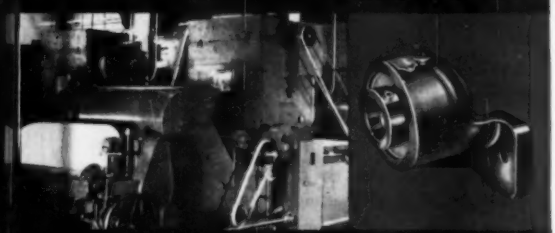


"SEALEDPOWER"
The famous C-W motor of ten-year reputation that cools and cleans itself with outside air blast. 3 to 125 hp. Also explosion-proof, 20 to 125 hp.

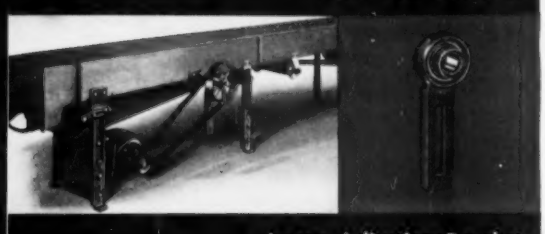
Bottom Apron Unit - Bale Breaker

Beater Box Unit

Lifting Apron Unit



Picker Fan Box Unit



Apron Adjusting Bracket

Fafnir Wide Inner Ring Bearing with Self-locking Collar, easiest of all to install

TURNING POINTS to lower costs

in Opening, Cleaning and Picking

Right from the start of your mill operations, Fafnir ready-to-mount textile ball bearing units can save you money. For example, on Vertical Openers where bearing loads are high, Fafnir ball bearings ease the load, lighten wear, increase belt life, remove the fire hazard of dripping oil and maintain the general overall efficiency of the machine.

You can get Fafnir Textile Units in such a wide variety of types that no vital turning point need be without the benefits of anti-friction bearings. Because these units are designed for specific points on specific machines . . . bale breakers, hoppers, blending feeders, pickers, etc., . . . you'll find their installation easy and fast. What's more, practically all units have the Fafnir Wide Inner Ring Ball Bearing with self-locking collar, easiest of all to install.

Get acquainted with the complete Fafnir Textile Line and its possibilities for lowering your costs of production. Send for the latest catalog on Textile Units. The Fafnir Bearing Company, New Britain, Conn.

Other FAFNIR UNITS for Opening Cleaning Picking

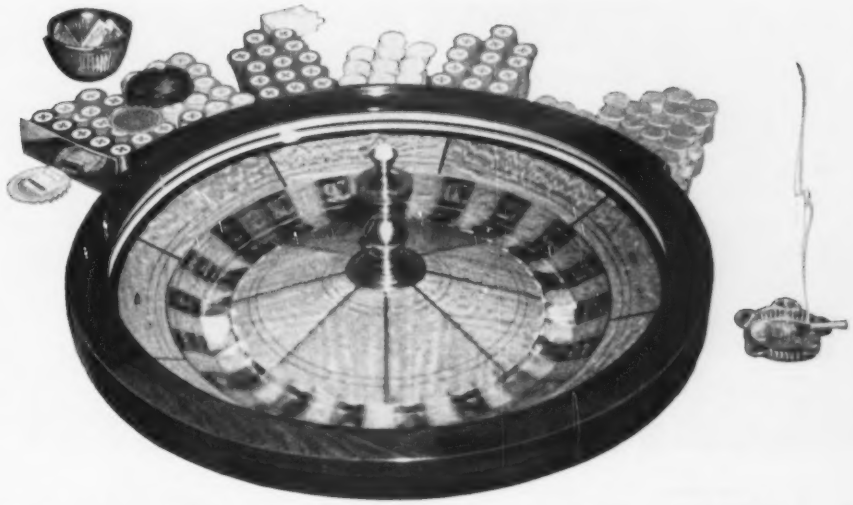
- LAK Type Pillow Block
- Frame and Take-Up Unit
- Lifting Apron Unit — Saco-Lowell F5 Feeder
- Idler Cone Unit — for P & D Evener
- Adjustable Lifting Apron Unit — No. 4 Saco-Lowell Bale Breaker
- Evener Cone Unit — Saco-Lowell Picker
- Lifting Apron — Saco-Lowell F5 Feeder
- Slat Conveyor Roll Unit — Saco-Lowell Opening Room Equipment
- Side Shaft — Saco-Lowell Picker
- Apron Adjusting Bracket — Saco-Lowell Lattice Conveyor
- Apron Adjusting Bracket — Saco-Lowell Blending Reserve
- Breaker Shaft Unit — No. 4 Saco-Lowell Bale Breaker
- P & D Evener Unit — Saco-Lowell Picker
- Box-worm Gear — Top Cone Shaft P & D Evener
- Unit-Doffer Beater for Kitson Hopper
- Calender Rack Assembly Units

FAFNIR

BALL BEARINGS

MOST COMPLETE LINE IN AMERICA

You Can't Depend on these Numbers . . .



But You CAN Depend on *Ashworth's* 4-6-7

4 FACTORIES (Fall River, Worcester, Philadelphia, Greenville) assure you of an uninterrupted supply of card clothing. Decentralized and strategically located, these factories can "pinch hit" for each other in emergencies.

6 REPAIR SHOPS (Fall River, Philadelphia, Charlotte, Greenville, Atlanta, Dallas (Textile Supply Co.)) assure convenient, economical and prompt reclothing and repair service.

7 DISTRIBUTING POINTS (Fall River, Worcester, Philadelphia, Charlotte, Greenville, Atlanta, Dallas (Textile Supply Co.)) make Ashworth products and consultation service more readily available.

AND DON'T FORGET "90". More than 90 years of experience in cards and card clothing — your guide to a consistently high standard of quality in manufacture and efficiency in performance.

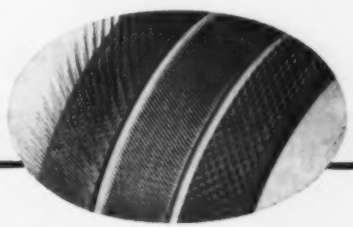
Buy Ashworth Card Clothing and get DEPENDABILITY.

ASHWORTH BROS., INC.

American Card Clothing Co. (Woolen Division)

FALL RIVER • WORCESTER • PHILADELPHIA • CHARLOTTE • GREENVILLE
ATLANTA • DALLAS (Textile Supply Co.)

CARD CLOTHING . . . For cotton, wool, worsted, silk, rayon and asbestos cards and for all types of napping machinery. Brusher clothing and card clothing for special purposes. Lickerin wire and garnet wire. Sole distributors for Platt's metallic wire. Lickerins and top flats reclothed.



Ashworth CARD CLOTHING

Removing a set of Stainless Steel forms from the steam retort in Real Silk's Pre-boarding department. These forms have been in service 16 hours a day, five days a week for 13 years.

Stainless Steel forms in the finished boarding department are heated internally by steam. These units have been in service since 1941 without replacement.

Smooth Stainless Steel forms keep Realsilk brand hosiery "snag-free"... and they've lasted 13 years

● Snagging is as much a problem to the hosiery mill as it is to the wearer. That's an important reason why Real Silk Hosiery Mills, Inc., Indianapolis, Ind., finds Stainless Steel the best material for stocking forms.

Stainless Steel's smooth surface *stays* smooth and hard, preventing snags and pulled threads. Stainless is easy to keep clean, too, and retains its "like-new" appearance.

Long life is important, also, and here again Stainless Steel fills the bill. In the pre-boarding department, where undyed stockings are set in a steam retort, nineteen 48-board units have been in service since 1938 and 1939 without replacement. In finished boarding, where stockings are set into final shape on internally steamheated forms, forty-seven 12-board units have been in service for ten years without replacement.

Stainless Steel's long service life, its kindness to the product, its high corrosion resistance and its low maintenance and replacement costs make it essential to almost every part of the textile production line. Although some grades are in short supply today, it's time to plan for increased efficiency with U·S·S Stainless Steel.

"Stainless Steel forms . . . are the finest obtainable"

S. J. Gatchell, superintendent of Real Silk's Hosiery Division, says, "We believe the Stainless Steel forms used in our pre-boarding and boarding departments are the finest obtainable. They are very durable and have a very smooth finish. These Stainless forms are very easy to keep clean and look like new after many years of service."

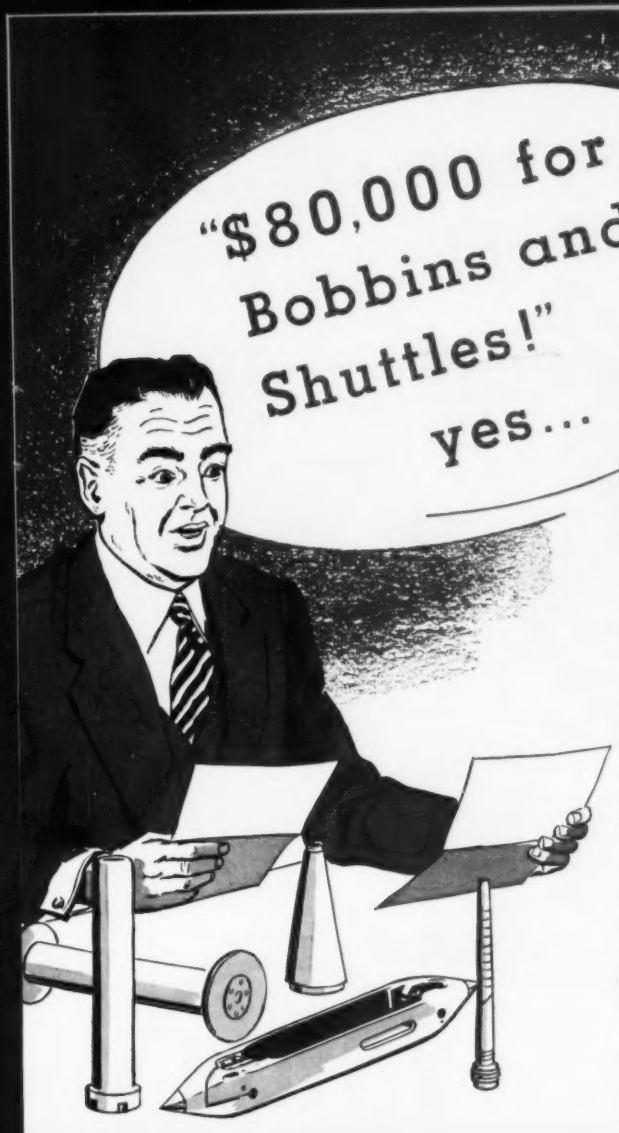
U·S·S STAINLESS STEEL

2-107

USS UNITED STATES STEEL

AMERICAN STEEL & WIRE . . . . COLUMBIA-GENEVA STEEL . . . . NATIONAL TUBE . . . . TENNESSEE COAL & IRON
UNITED STATES STEEL SUPPLY, WAREHOUSE DISTRIBUTORS . . . . Divisions of UNITED STATES STEEL COMPANY, PITTSBURGH
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

For more information, write direct or use Reader Service post card.



Yarn Carriers, too, are Capital Equipment

A single bobbin, shuttle, or other yarn carrier is, relatively, one of the lowest-cost items of textile equipment you buy. For this reason, it's not surprising that top management in many mills shows little concern in their selection.

When you look at the total *annual* cost, however, you need little persuasion that yarn carriers should definitely be classed as capital equipment. In one mill this annual cost is $80,000 . . . enough to buy several cotton spinning frames.

That size expenditure in machinery would have to get approval from the front office. You'd make sure the investment would pay off in production economy before signing an order.

Isn't it just as important to take as much care in investing the same kind of money in yarn carriers? Especially since, if inferior, they can depreciate much faster than machines.

U S Bobbin & Shuttle Co. — for 93 years the leading producer of yarn carriers — will help you make sure your investment pays off, in better yarn and fabric quality, in lower operating cost.

U S owned timber properties permit complete control of wood stock selection and every step in processing, from forest to finished products. Five manufacturing plants, North and South, provide ample facilities to produce and deliver promptly the cost-saving yarn carriers you need, in any quantity.

Anywhere in textile America, you are near the headquarters of a U S specialist in yarn carrier selection. He'll call at your request.

U S BOBBIN & SHUTTLE CO.

LAWRENCE, MASS. PROVIDENCE, R. I. PHILADELPHIA, PA. JOHNSON CITY, TENN.
GREENVILLE, S. C. CHARLOTTE, N. C. MINNEAPOLIS, MINN.

LOS ANGELES: E. G. Paules, 1762 W. Vernon Ave.
DALLAS: O. T. Daniel, Textile Supply Co.
CANADA: W. J. Westaway, Montreal, Que., Hamilton, Ont.

"Tycol Acylkup keeps bearings running cool... does not emulsify with water"

That's right! Tycol Acylkup Grease withstands heavy unit pressures . . . resists emulsification with water. It is easily applied by grease gun or central system.

Further, Tycol Acylkup Grease contains a high grade paraffin base cylinder oil that steps up bearing efficiency and assures increased bearing life. Protection against wear is long-lasting.

Your nearest Tide Water Associated Office will be glad to give you complete information. Call or wire today.

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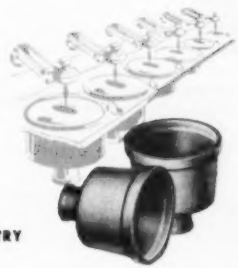
micarta is basic!

In many places in your production



TEXTILE INDUSTRY

Lap rolls, pirns, picker-sticks, shuttles . . . MICARTA® is handling more and more of these key textile jobs better and longer than either metal or wood. MICARTA is a basic material. It is lighter than aluminum . . . pound for pound this plastic has a compressive strength greater than structural steel. It cannot rust.

MICARTA will not fuse. It kills noise and absorbs vibration. It can be machined, formed or fabricated easier and more economically than metal.

MICARTA is part of the textile future. Explore its possibilities in your plant. Westinghouse Electric Corporation, Micarta Division, Trafford, Pennsylvania. J-06444-A

MICARTA is paying its way. As a basic material it can serve the textile industry in rings, separators, guide rollers, spools, bobbins, shuttles, rolls, bearings, inspection forms and tables, pulleys, picker-sticks.

In fact, wherever tough, light and even-wearing parts are a "must" to production, there you will find a place for versatile MICARTA.

 For more information, write direct or use Reader Service post card.

The SMITH-DRUM Line of Textile Dyeing, Drying and Finishing Machines

For many years, most of the major advancements in these types of machines have been developed by Smith-Drum engineers. In these latest models, a number of improvements have placed them still further ahead in design and performance. This leadership in engineering has been steadily reflected in outstanding leadership in sales . . . year after year. When you purchase any Smith-Drum machine you can be sure that it is of the most advanced design, economical in operation and built of the finest materials to give long, trouble-free service. Complete information on any of these machines will be sent promptly upon request.

TYPE RD

ROTARY HOSIERY DYEING MACHINE

9 out of every 10 pairs of hosiery made in the United States and Canada are dyed in Smith-Drum machines.

TYPE PD

PADDLE HOSIERY DYEING MACHINE

This popular machine is used in many of the leading hosiery mills in the United States and Canada.

TYPE CSD

SKEIN DYEING MACHINE

Completely revolutionized Skein Dyeing . . . now recognized as the only machine satisfactory for fine count silk and rayon.

TYPE CHD

HOSIERY DRYING MACHINE

A basically new machine for final finishing of all nylon hosiery . . . with 4 to 5 times the usual production rate per operator. Eliminates final boarding . . . no forms required. Desirable doll finish is obtained.

TYPE CBPDM

BEAM & PACKAGE DYEING MACHINE

Radically new type of machine for dyeing beams or packages insures uniformity of results . . . plus real economies in operation.

TYPE PSD

PULSATING SKEIN DYEING MACHINE

For dyeing heavy woolen, worsted and cotton yarns. Intermittent flow of dye liquor keeps yarn free of snarls. Facilities are provided for reversing flow.

MECHANICAL TYPE

PACKAGE EXTRACTING MACHINE

Provides more uniform extraction, without distortion of package. Reduces labor in loading and unloading.

TYPE PDM

PACKAGE DYEING MACHINE

Most important installations of this type machine in recent years have been made by Smith-Drum.

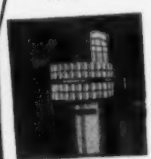
CABINET TYPE

Package Drying Machine

PORT TYPE

Package Drying Machine

PRESSURE TYPE



PACKAGE EXTRACTING MACHINE

Extracts packages with air, right on the carrier as removed from the dyeing machine. This machine is generally used in combination with port type blower drying.

SMITH, DRUM & COMPANY, Allegheny Ave. at 5th St. Phila. 33, Pa.

Ideal for BLENDS

TYPICAL SYTON APPLICATIONS IN LEADING MILLS

MILL A—55-45 wool-rayon blend. Applied 1.5% Syton to wool stock; then blended before carding. Front roll speed increased from 105 to 139 r.p.m.—resulting in over 30% increase in production.

MILL B—50-50 wool-rayon blend. Applied 2% Syton, 3% oil emulsion. Stock carded well and was spun to 3⅛ run yarn. Tensile strength increased from 75 to 89 lbs.—a gain of 18%.

MILL C—80-20 wool-nylon blend. Applied 2% Syton, 4% oil to wool stock; then blended with nylon. Overseer attributed improved spinning to uniformity of sliver and yarn.

MILL D—50-50 wool-Dynel blend. Applied 1% Syton, 2½% oil (based on weight of wool) to blended stock. Spun to 6 run. Good control of fibers, smooth, uniform yarn noted.

MILL E—50-50 wool-viscose blend. Applied 1½% Syton, 3% oil to wool; then blended with rayon. Mill had used Syton for 18 months on blends, including virgin and darnetted wool, acetate, viscose, and nylon, with consistently good results.

New yarn strength and uniformity... no matter what you're blending... with SYTON

Whatever you're cooking up... in the way of blended fabrics... a dash of SYTON can do wonders for it.

Mill experience across the country shows definite, measurable increases in the strength, uniformity and spinning qualities of wool blends that have been given the benefit of Monsanto's silica sol additive.

- Sytonized wool-rayon yarn is 10-30% stronger.
- Smooth rayon staple approaches the spinning behavior of serrated wool fiber when Syton is applied to control inter-fiber slippage.
- Ends down are reduced... finer counts (or equal yarn strength with *less* twist) are standard... production is improved all along the line.

What better reason to *ask today* for complete information on how mill men are stepping up their operations and cutting costs with SYTON.

Syton: Reg. U. S. Pat. Off.

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CHEMICALS—PLASTICS
SERVING INDUSTRY... WHICH SERVES MANKIND

MONSANTO CHEMICAL COMPANY, Textile Chemicals Dept., Everett Station, Boston 49, Mass. Dept. TWT-45

Please send me information on Syton.

Name & Title _____

Company _____

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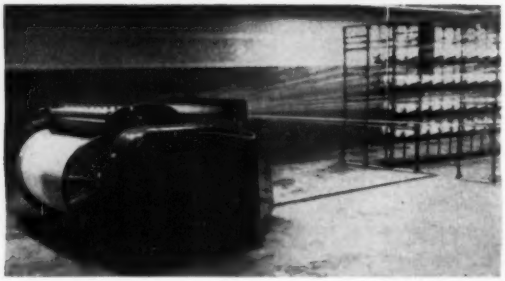
Especially Designed For Large Section Beams



Model SD-49

The New Cocker Spindle Driven Warper

This is the model which was displayed at the Atlantic City Exhibition. It will handle large section beams with 36" diameter heads 54½" between heads or wider, as well as beams with smaller diameter heads. Can be run with either horizontal or vertical creels. Weights approximately 9000 pounds. Heavy construction permits high speeds with minimum of vibration.

Warner Electric Magnetic Brakes: provide synchronized control over main drive shaft, presser roll, and cross over roll brakes.

Large Diameter Press Roll: adjustable pressure provided by heavy air cylinder.

Beam Driven and Braked from both Ends: eliminates undue strain on the beam.

Driving Heads: equipped with self-centering chucks, and driving dogs—both controlled by a single operation.

Beam Loading and Unloading: easily and quickly done by air cylinder which operates the pressure roll.

Standard Equipment on all Machines

Static Eliminating Bar & Tape-off Bar

Electric Pre-determining Counter Clock

Electric Speed Indicator

Collecting Eyeboard on back of Machine

Positive Zig Zag Expansion on Front

Push Buttons controlled with Stations on both sides of Machine: convenient to operator—each station with Stop-Start and Jog buttons.

Speed up to 1000 yards per minute

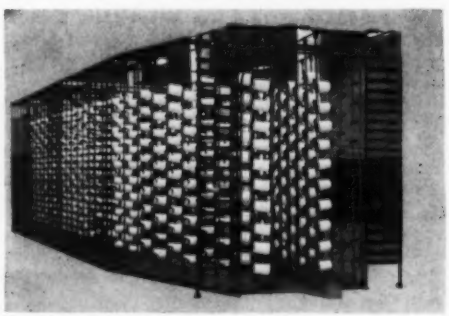
Over-all dimensions 9'2" by 7'4" by 51½" high.

Vertical Type Cone Creel With Electrical Eyeboard Stop Motion

A portion of this patented creel is shown with the Warper above. Can be built three, four, five, or six packages high to suit building. This creel has many exclusive features which improve tying in of reserve cones, improve tension control, and provide positive braking action. Write for Folder SD-49 for full details on the equipment shown here.

Included on this equipment is the electronic relay stop motion, patented by Deering, Milliken Research Trust and manufactured by Cocker.

These machines can also be equipped with our Horizontal Type of Magazine Cone Creel, shown below.



THE LEADER AROUND THE WORLD

COCKER Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

make every bit of stainless count

Wise and efficient use of available stainless steel stocks can go a long way to making sure that all defense and industry needs are met.

Getting the best available materials for your job is a vital first step—Crucible, pioneers in the development of stainless steels, urges you to take full advantage of our metallurgical staff and stainless fabricating specialists. Their wealth of experience—based on thousands of stainless applications—can help stretch your stainless supply. There is no other metal that can work the same "miracles" as stainless, and these Crucible metallurgists can help you select the best available stainless grades for your needs.

It's up to you to make every bit of stainless count—we're equipped to help you do it. When your problem is stainless—call on us.

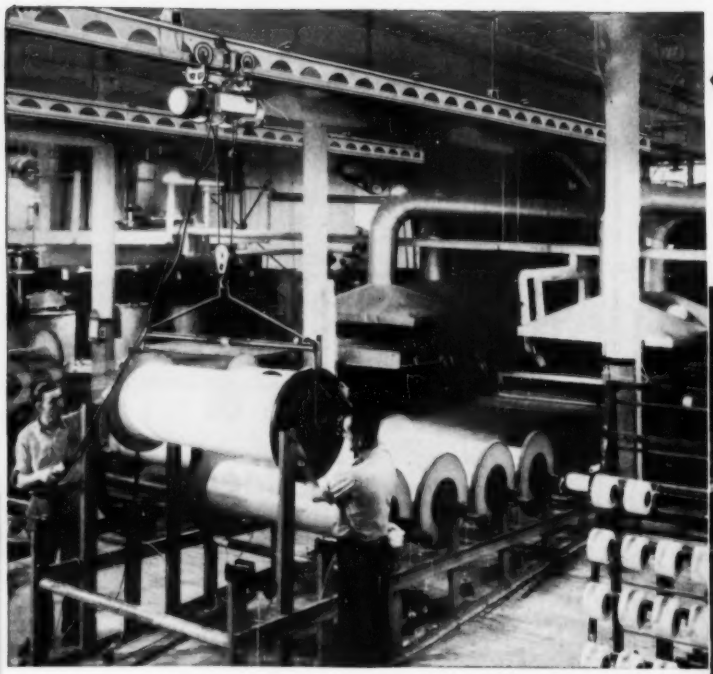
CRUCIBLE first name in special purpose steels

52 years of Fine *steelmaking*

STAINLESS STEEL

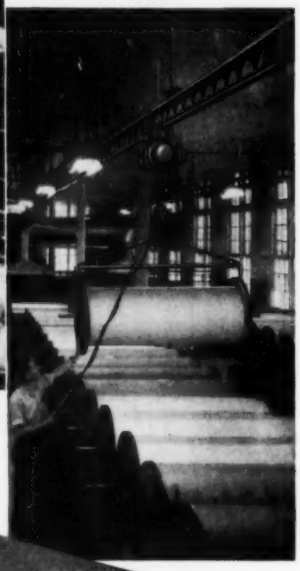
CRUCIBLE STEEL COMPANY OF AMERICA, GENERAL SALES OFFICES, OLIVER BUILDING, PITTSBURGH, PA.

STAINLESS • REX HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE STEELS



The Tramrail system permits handling beams from warp beam storage to slasher and thence to loom beam storage, entirely by the overhead route. Travel from point to point is direct; no manual lifting or rehandling.

Beams are easily handled in and out of the warp beam storage. The four double-deck racks accommodate a total of 176 beams.



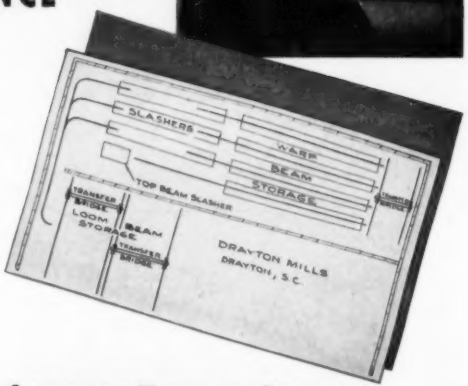
BEAM HANDLING SYSTEM PROVIDES SAFETY and CONVENIENCE

A simple hand-propelled Cleveland Tramrail System handles all beams in and out of the warp beam storage and into the slashers at the Drayton Mills, Spartanburg, S. C.

A 1000 lb. carrier travels on a transfer bridge and on four tracks over the beam storage racks. The bridge may be interlocked with any of the tracks, enabling overhead delivery of any beam to any slasher.

Loom beams are taken directly from the slashers to a large storage section by a manually operated Tramrail carrier which can be run onto either of two interlocking transfer bridges there.

The Tramrail system makes beam handling easy and enables orderliness and greater efficiency.



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THE CLEVELAND CRANE & ENGINEERING CO.
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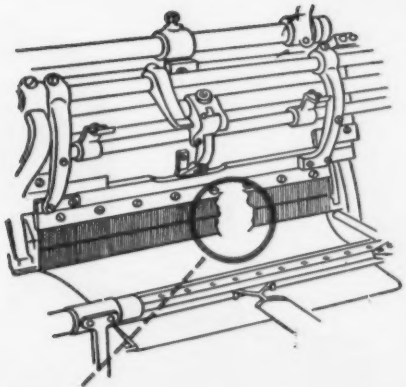
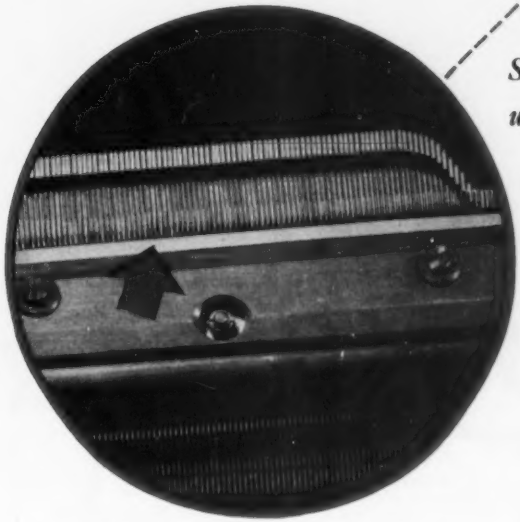
CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT



Verge plates of nylon plastic wear far longer



CLOSE-UP of sinker-head assembly (top view) shows action of sinker-backs, striking against verge plate insert of resilient nylon plastic. Nylon inserts for "Reading" machines are molded by Vulcanized Rubber & Plastics Co., Morrisville, Pennsylvania.

Show no sign of wear after 4 months' use on "Reading" knitting machines

These new verge plate inserts of Du Pont nylon plastic mean substantial savings in time and maintenance costs for hosiery manufacturers. That's why they have been adopted by Textile Machine Works as standard equipment on "Reading" full-fashioned knitting machines.

The new nylon parts have needed no resurfacing, show no sign of wear after 4 months' use in mills. Too, verge plates of resilient nylon provide a better cushion for the sinker-backs . . . help cut down breakage, cut out wasted time for replacement. These improvements over conventional verge plates are made possible by nylon's outstanding toughness, resiliency, and all-round durability.

This is but one example of the many textile machinery parts molded of Du Pont nylon now improving performance and saving money for manufacturers. Such nylon parts as bearings, flyer blocks, bolsters, cap bars, and thread guides are becoming standard equipment in more and more mills.

Demand for nylon plastic currently exceeds supply. However, we'll gladly work with you in suggesting or developing new applications for the future. Write today for more data.

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...THROUGH CHEMISTRY
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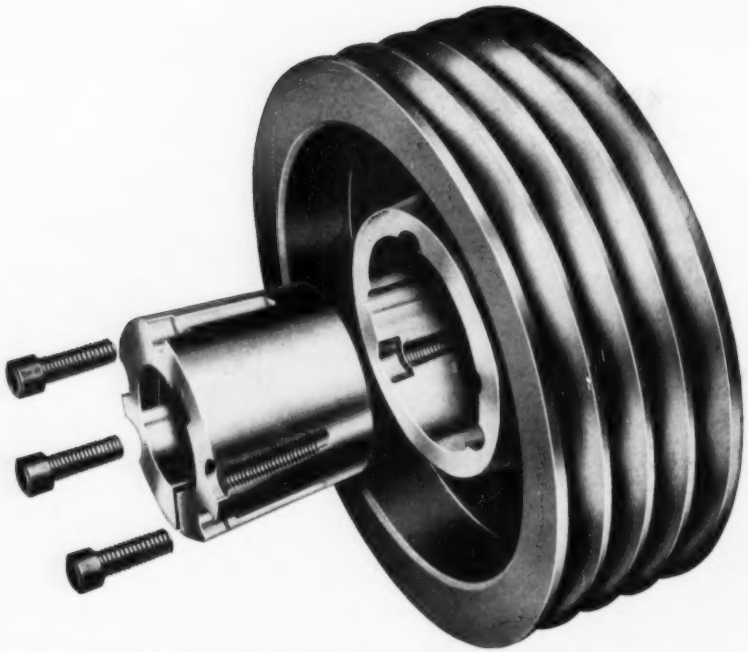

This is the sheave that's being used to *modernize* mill drives. Proved in over 3/4 million installations!

TAPER-LOCK

1. No flange. No collar. It's different.
2. Easy on — easy off.
3. Just tighten the screws that wedge the bushing. Simple, isn't it?
4. Always a perfect fit on shaft — tight as "shrunk-on."
5. Complete range of sizes. A, B, C and D grooves, *in* stock.
6. Try it—and you'll standardize on it!

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CALL THE TRANSMISSIONEER, your local Dodge Distributor, for information on new and better methods of transmitting power. Look for his name under "Power Transmission Equipment" in your classified telephone book.

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FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY,
ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS

FOR **MAXIMUM** LIGHT FASTNESS ON RESIN TREATED FABRICS...

Ciba CHLORANTINE FAST Colors
maintain MAXIMUM LIGHT FASTNESS
after urea formaldehyde resin treatment
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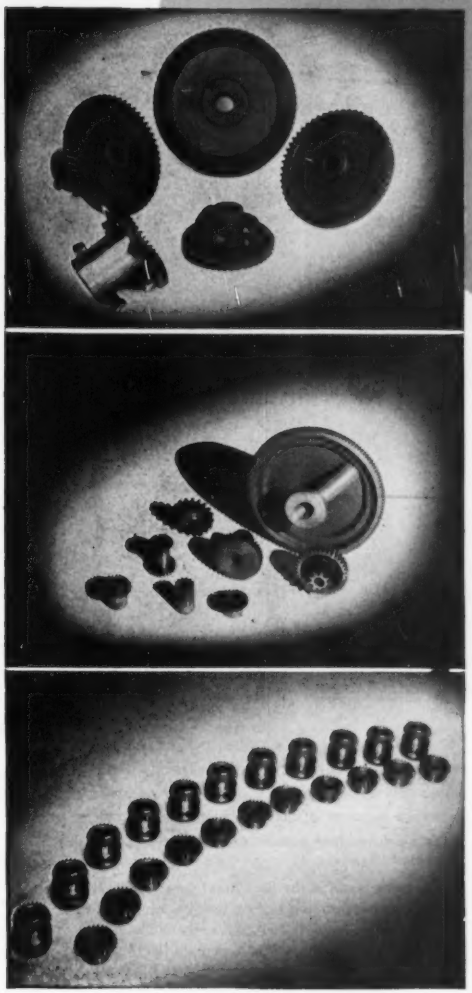

Plate and Coupling Gears
Card Coiler Gears
Bobbin and Spindle Gears

Gear manufacture is not a simple foundry casting problem. Demands for long life—superior performance—efficient service, call for precise engineering in the process.

Gears by Southern States give longer, smoother, more efficient operation because they fit accurately, mesh easily, reduce chatter and vibration. This superior performance of Southern States machine-molded cast-tooth gears and precision-machined cut-tooth gears is achieved through modern metallurgical and foundry practices to assure uniformity of specifications. Accurate machining and rigid inspection assure maximum operating efficiency. Southern States products are guaranteed by an experience gained from thirty years of service to many of the South's leading textile mills.

Southern States Bobbin and Spindle gears, Plate and Coupling gears, and Card Coiler gears to fit all frames. Submit samples, drawings or specifications for quotations.

QUANTITY PRODUCTION OF CAST-TOOTH GEARS. CUT-TOOTH GEARS FROM 2 TO 32 DP.

Southern States Equipment Corp.

HAMPTON GEORGIA

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John C. Walters, Hampton, Georgia
Roy Schrimshire, Columbus, Georgia
F. C. Todd, Inc., Gastonia, N. C.
Matthews Equipment Co., Providence, R. I.
C. H. Kennington, Charlotte, N. C.
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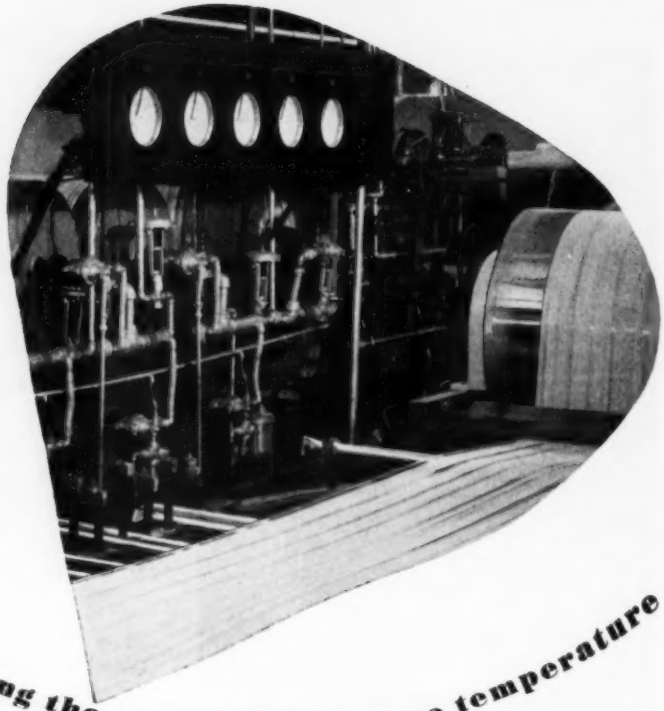
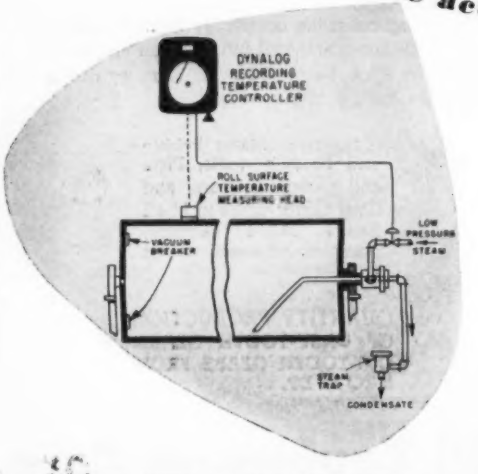
Largest Manufacturer of Cast-Tooth and Cut-Tooth Gears in the South

Get closer slasher control than you've ever seen before...



...controlling the actual roll surface temperature



Schematic diagram of Foxboro Slasher Control System. This new system is readily adaptable to both new and existing machines.

For the first time, by measuring *actual* roll surface temperatures and controlling directly from those measurements, you are now assured of superior slasher operation in three important ways:

1. You get constant surface drying conditions regardless of load changes.
2. You save much of the time heretofore required to bring cans up to operating temperature. In an actual case, this saving was found to be 75%, representing an hour's time gained in a twenty-four hour day on just one machine!
3. You control the surface temperature directly . . . within ± 1½°F. (Closer than ever possible before.)

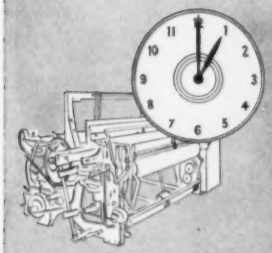
These revolutionary results are made possible by the unique Foxboro Roll Surface Temperature Measuring Head and the Foxboro Dynalog Electronic Recorder with Model 40 Pneumatic Control. There's nothing like it!

Write for full details of this exclusive Foxboro development. **The Foxboro Company, 481 Neponset Ave., Foxboro, Mass., U.S.A.**

FOXBORO REG. U. S. PAT. OFF. **INSTRUMENTATION**
INDICATING · RECORDING · CONTROLLING

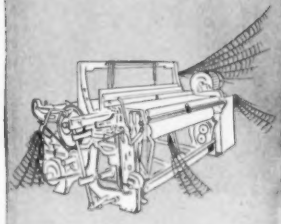
FACTORIES IN THE UNITED STATES, CANADA AND ENGLAND

On a RISING or FALLING DEMAND...



BY ACTUAL TESTS...

Hundreds of extra loom hours.



BY ACTUAL TESTS...

Decreased down time.

BY ACTUAL TESTS...

Far less wear on other

Quality Pays DIVIDENDS

Never sell quality short. . . buy for production dividends. Because CHECKMATE and BON VIE checkstraps are designed to wear longer—thousands of loom hours longer . . . they cost less per hour of operation! They reduce costly down-time, give greater protection to expensive loom parts and add up to increased production and greater profits.

Write today for prices . . . and check your actual cost.

SOUTHERN *Belting* COMPANY

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THE "SOUTHERN WAY" IS THE MODERN WAY

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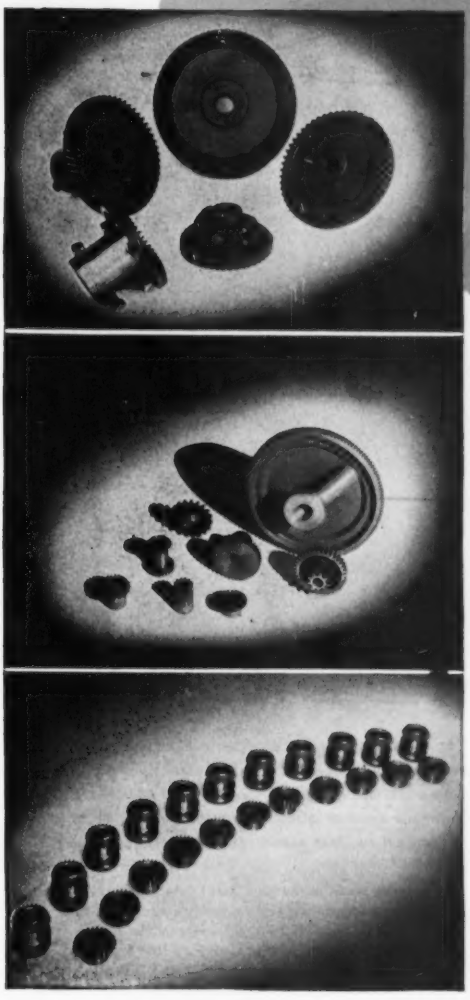
ATLANTA

Next door to every
MILL in the SOUTH

Member Federal Deposit Insurance Corporation



PRECISION MADE

Gear manufacture is not a simple foundry casting problem. Demands for long life—superior performance—efficient service, call for precise engineering in the process.

Gears by Southern States give longer, smoother, more efficient operation because they fit accurately, mesh easily, reduce chatter and vibration. This superior performance of Southern States machine-molded cast-tooth gears and precision-machined cut-tooth gears is achieved through modern metallurgical and foundry practices to assure uniformity of specifications. Accurate machining and rigid inspection assure maximum operating efficiency. Southern States products are guaranteed by an experience gained from thirty years of service to many of the South's leading textile mills.

Plate and Coupling Gears
Card Coiler Gears
Bobbin and Spindle Gears

Southern States Bobbin and Spindle gears, Plate and Coupling gears, and Card Coiler gears to fit all frames. Submit samples, drawings or specifications for quotations.

QUANTITY PRODUCTION OF CAST-TOOTH GEARS. CUT-TOOTH GEARS FROM 2 TO 32 DP.

Southern States Equipment Corp.

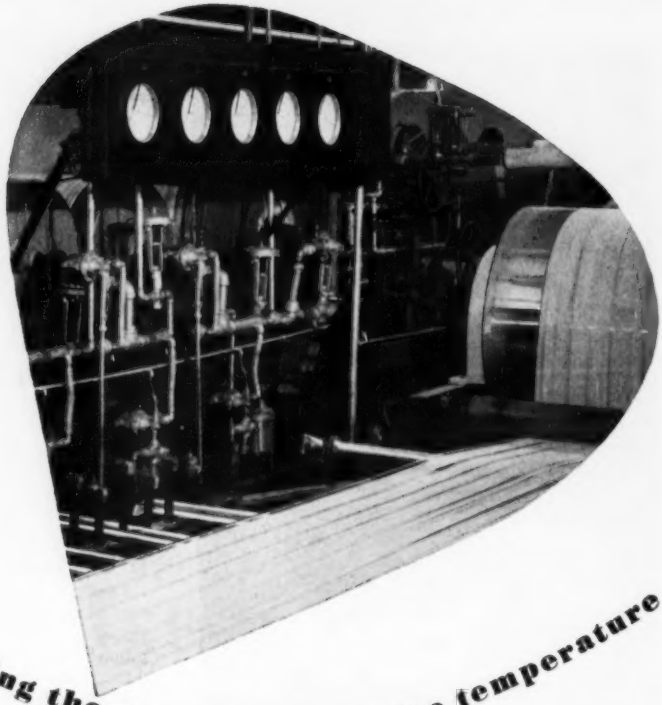
HAMPTON GEORGIA

Representatives - Mechanical Division

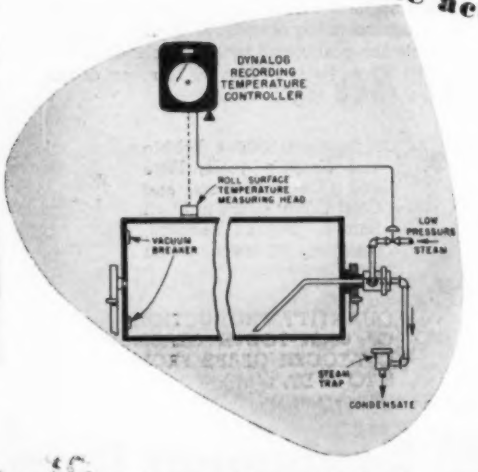
William A. Knapp, Atlanta, Georgia
John C. Walters, Hampton, Georgia
Roy Schrimshire, Columbus, Georgia
F. C. Todd, Inc., Gastonia, N. C.
Matthews Equipment Co., Providence, R. I.
C. H. Kennington, Charlotte, N. C.
Textile Parts & Machine Co., Gastonia, N. C.

Largest Manufacturer of Cast-Tooth and Cut-Tooth Gears in the South

Get closer slasher control than you've ever seen before...



...controlling the actual roll surface temperature



Schematic diagram of Foxboro Slasher Control System. This new system is readily adaptable to both new and existing machines.

For the first time, by measuring *actual* roll surface temperatures and controlling directly from those measurements, you are now assured of superior slasher operation in three important ways:

1. You get constant surface drying conditions regardless of load changes.
2. You save much of the time heretofore required to bring cans up to operating temperature. In an actual case, this saving was found to be 75%, representing an hour's time gained in a twenty-four hour day on just one machine!
3. You control the surface temperature directly . . . within ± 1½°F. (Closer than ever possible before.)

These revolutionary results are made possible by the unique Foxboro Roll Surface Temperature Measuring Head and the Foxboro Dynalog Electronic Recorder with Model 40 Pneumatic Control. There's nothing like it!

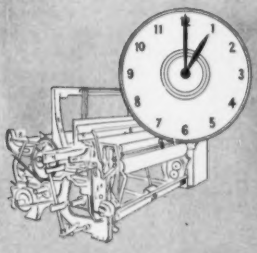
Write for full details of this exclusive Foxboro development. **The Foxboro Company, 481 Neponset Ave., Foxboro, Mass., U.S.A.**

FOXBORO REG. U. S. PAT. OFF.

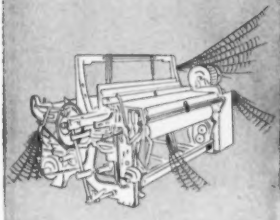
INSTRUMENTATION
INDICATING · RECORDING · CONTROLLING

FACTORIES IN THE UNITED STATES, CANADA AND ENGLAND

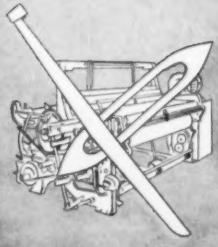
On a RISING or FALLING DEMAND...



BY ACTUAL TESTS...
Hundreds of extra loom hours.



BY ACTUAL TESTS...
Decreased down time.



BY ACTUAL TESTS...
Our loss wear on other

Quality Pays DIVIDENDS

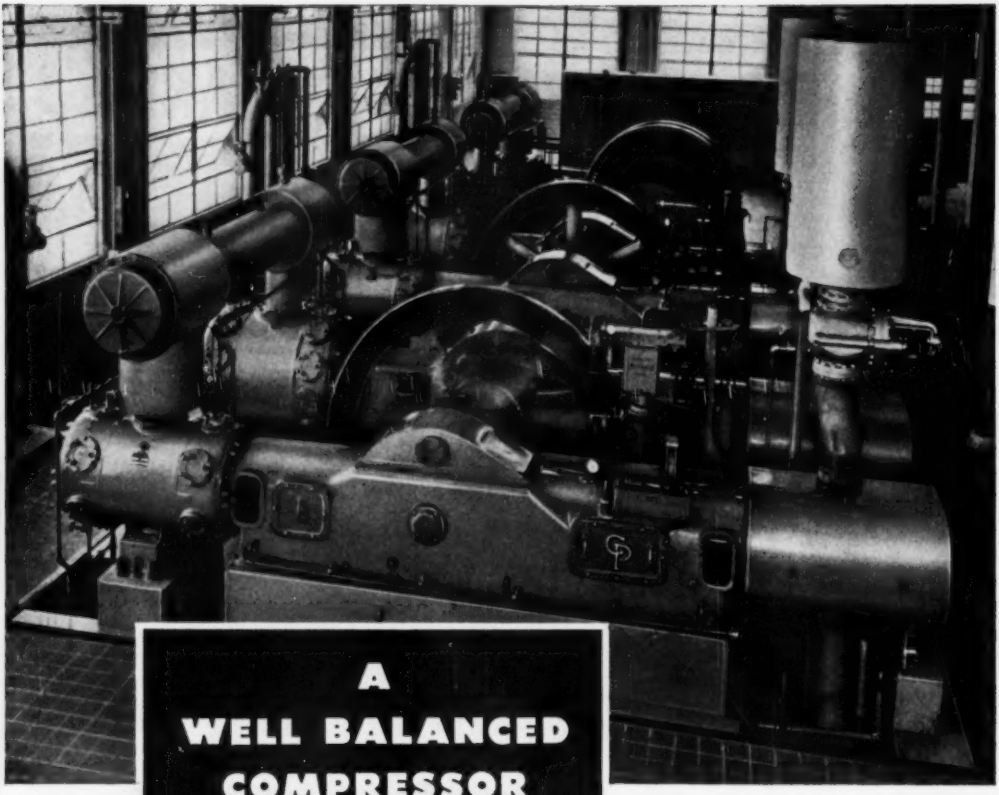
Never sell quality short. . . buy for production dividends. Because CHECKMATE and BON VIE checkstraps are designed to wear longer—thousands of loom hours longer . . . they cost less per hour of operation! They reduce costly down-time, give greater protection to expensive loom parts and add up to increased production and greater profits.

Write today for prices . . . and check your actual cost.

SOUTHERN *Belting* **COMPANY**

236 FORSYTH STREET, S. W. ATLANTA 2, GEORGIA

THE "SOUTHERN WAY" IS THE MODERN WAY



A WELL BALANCED COMPRESSOR INSTALLATION

This CP installation in one of the country's largest automobile plants — three 500 horsepower compressors, one motor-driven and two steam-driven — is a good example of effecting heat balance.

Such combinations of steam and motor-driven compressors provide a desirable flexibility of operation and reduce power costs particularly in plants where exhaust steam can be utilized for process work or for heating.

CHICAGO PNEUMATIC TOOL COMPANY
General Offices: 8 East 44th Street, New York 17, N. Y.

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

Write for complete information.

15% MORE PRODUCTION
45% LESS UPKEEP WITH

STERLING SLO-SPEED!

Individual Slo-Speed drives replaced line shafting for driving batteries of knitting machines, reports Mr. Murray Tishler, Secretary-Treasurer of Diane Knit Fabrics Co., Norwalk, Conn. After one year of operation, records reveal Sterling Slo-Speeds increased production 15%, reduced power costs 12%, reduced maintenance 45%, improved personnel morale through greater plant safety and increased working areas.

STERLING SLO-SPEED GIVES YOU THE ONE BEST LOW SPEED AND

gives uninterrupted service—carries heavy overhung loads—provides versatile mounting and flexibility in arrangement of machinery—saves valuable space—provides greater safety—costs less to install and use. An indispensable source of low speed power for:

Agitators	**Dryers**	**Presses**
Blenders	**Feeders**	**Pumps**
Blowers	**Kilns**	**Screens**
Conveyors	**Mills**	**Tumblers**
Cookers	**Mixers**	**Etc., etc.**

OTHER STERLING ELECTRIC POWER DRIVES:

- **STERLING SPEED-TROL (VARIABLE SPEED) MOTORS**
- **STERLING KLOSD AND KLOSD-TITE (NORMAL SPEED) MOTORS**

DRIP-PROOF • SPLASH-PROOF • TOTALLY ENCLOSED

70 ILLUSTRATIONS showing how Sterling Electric Power Drives reduce production costs. Write for Bulletin No. C-109.

STERLING ELECTRIC MOTORS

Plants: New York City 51; Van Wert, Ohio; Los Angeles 22; Hamilton, Canada; Santiago, Chile.
Offices and distributors in all principal cities.

American Blower... a time-honored name in air handling

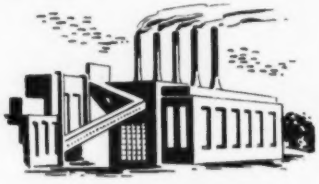
Oklahoma City has a conveniently located American Blower Branch Office to provide you with data and equipment for air handling. You can reach American Blower in Oklahoma City by calling 2-0695. In other cities, consult your phone book.

HEATING LARGE AREAS

Ability to place heat *where* it's wanted and in the *quantity* needed is an advantage that makes American Blower Unit Heaters ideally suited for heating such large areas as warehouses, garages and auditoriums. These dependable unit heaters force heat down to the working level, heat up quickly with little time lag. They are low in first cost, and deliver more heat per pound of material than any other known system of heating. Models available for steam or hot-water heating systems, also self-contained gas-fired models.

DUST PROBLEM?

If you have a problem along the lines of dust and fly ash collection, American Blower will be glad to help you. We have a wealth of experience in this field that covers not only dust and fly ash removal in industry and public utilities, but also the recovery of valuable materials from air. In addition to local, on-the-spot assistance from our branch office personnel, a modern, fully equipped dust laboratory is maintained in Detroit to serve you.



MORE EFFICIENT POWER

If you're faced with the need of expanding or enlarging power plant facilities, consult American Blower. You'll find our Mechanical Draft Fans help you meet the most exacting power plant requirements. High static efficiency, low RPM, low tip speed and low inlet velocity are but a few of the many reasons these fans have enjoyed such wide acceptance. Types for both forced and induced draft work.

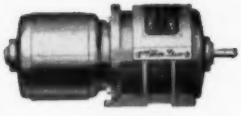
YOUR BUSINESS

No matter what business you're in, you can count on American Blower heating, cooling, drying, air conditioning or air handling equipment to do the job better, more economically. Phone or write our nearest branch office for data.

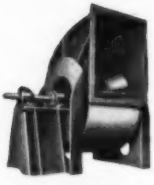
Unit Heaters

Mechanical Draft Fans

Dust Collectors



Gyrol Fluid Drives



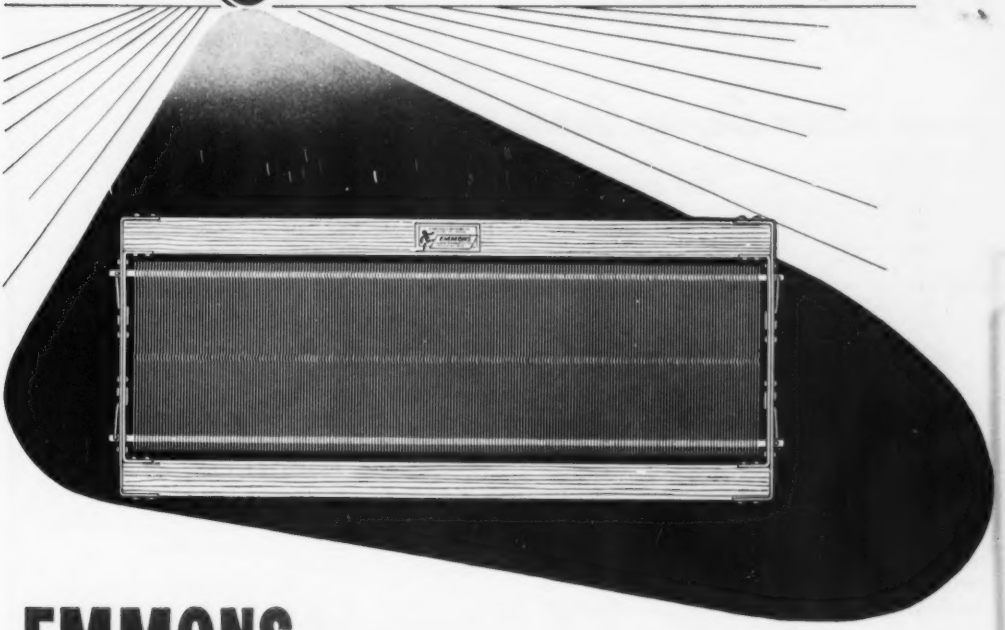
Industrial Fans

AMERICAN BLOWER CORPORATION, DETROIT 32, MICHIGAN
CANADIAN SIROCCO COMPANY, LTD., WINDSOR, ONTARIO
Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

YOUR BEST BUY **AMERICAN BLOWER** AIR HANDLING EQUIPMENT

Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER • ACME CABINETS • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA IRON

85 Years of Constant Product Improvement



EMMONS *The* Name in Loom Harness Since 1867!

WEAVE ROOM EQUIPMENT

Heddles, heddle frames, reeds, slasher and striking combs, Run-Rite Plastic Sheaves (distributed by EMMONS in New England, Canada & Export; manufactured by National Plastics, Inc.), plus a complete line of other weave room equipment.

And an Emmons "E" Man is located nearby, ready to supply you with our products or to advise on installations—wherever your mill, whatever your need. Ask him to keep you posted on our constant improvements.

You'll find EMMONS "E" MEN at

NEW JERSEY	LOS ANGELES, CAL.	GREENSBORO, N. C.
HENDRIK VAN BREDERODE 311 Godwin Ave., Midland Park Phone Ridgewood 6-0760	E. G. PAULES 1762 West Vernon Ave. Phone AX 3-6265	R. F. COE Box 221
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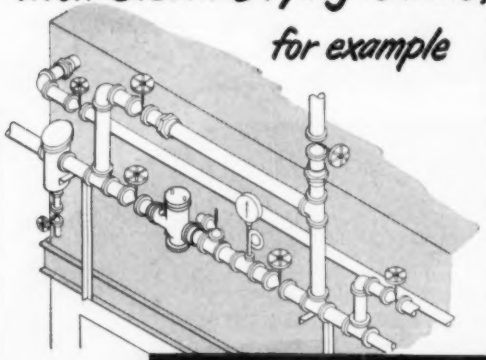
ALBERT R. BREEN 80 E. Jackson Blvd. Phone Harrison 7140	Branch Plant George Field, Mgr. P. O. Box 2036, Phone 3-7503	RALPH GOSSETT & COMPANY 8 South Church St. Phone 3-6233
CANADA	ATLANTA, GA.	SAN ANTONIO, TEX.
IAN M. HALDANE CO. P. O. Box 54 London, Ontario	ARTHUR HARRIS P. O. Box 1982 Phone Main 2643	W. H. GIBSON 1743 McKinley Ave. Phone L2-9451

Main Office and Plant

EMMONS LOOM HARNESS CO., Lawrence, Mass.

Are Your Pressure Regulators Doing As Well?

...on Steam Drying Ovens, for example



THE INSTALLATION

In steam supply line to battery of 2 drying ovens at Ferro Chemical Corporation, Bedford, Ohio. Ovens individually controlled by thermostatic valves.

THE HISTORY

Specifications called for a valve to reduce initial steam pressure of 70 psi to 13 psi, and to maintain reduced pressure automatically without significant fluctuation whether one, or both, or neither oven is operated. Ovens to be operated at same or different temperatures, depending on process requirements.

Specifications were met with one No. 960 Crane Pressure Regulator, properly selected for capacity, and installed with adequate drainage of condensate.

In service now more than 5 years without interruption, Crane Pressure Regulator is giving complete satisfaction. Working like new; maintenance cost to date: zero. Remarkably simple to adjust.

VALVE SERVICE RATINGS

SUITABILITY:	Does everything claimed for it
MAINTENANCE COST:	None; working like new
CORROSION-RESISTANCE:	Steam only - corrosion no problem
SERVICE LIFE:	In 5 years; no sign of wear
OPERATING RESULTS:	No fluctuation of oven heat
PRICE:	Good buy
AVAILABILITY:	Regular Crane item

THE VALVE

Crane No. 960 Brass Pressure Regulator reduces 250-Pound steam or air inlet pressure up to 80%. Available for operation at any of 4 pre-set ranges within 1 to 200 pounds outlet pressure. Adjusts easily within any set operating range. All wearing parts renewable; virtually never wears out. See your Crane Catalog or Crane Representative.

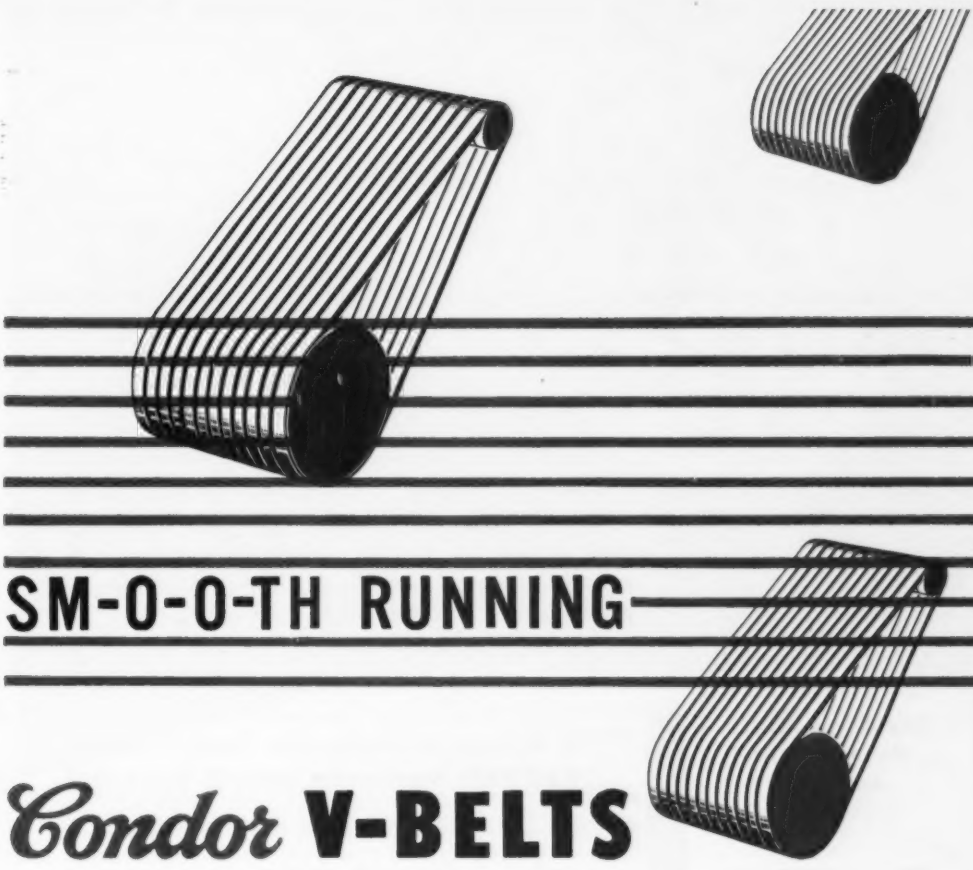
The Complete Crane Line Meets All Valve Needs. That's Why

More Crane Valves Are Used Than Any Other Make!

CRANE VALVES

CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Illinois
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • PLUMBING • HEATING



SM-O-O-TH RUNNING

Condor V-BELTS

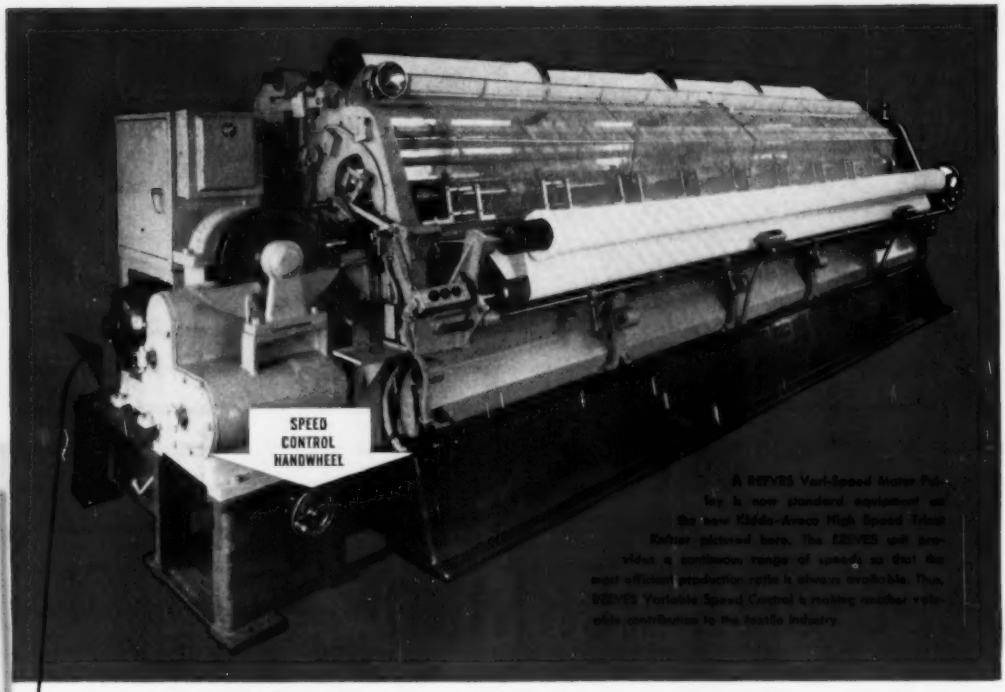
You get long belt life and low belt costs with Condor V-Belts because they are the smoothest running V-belts made. These are the Raybestos-Manhattan engineering reasons . . . Pulling section is micro-positioned, where engineering says it should be . . . Straight sidewalls give more grip, less slip, longer life . . . Every part of belt is precision-balanced. Other advantages are described in Bulletin 6868D. Write for a copy . . . or call your R/M Distributor • We can show you also how equally good engineering in R/M hose, conveyor and transmission belts helps "smooth out" production problems.

RM

MANHATTAN RUBBER DIVISION—PASSAIC, NEW JERSEY

RAYBESTOS-MANHATTAN, INC.

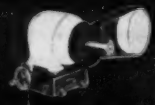
Other R/M products include: Industrial Rubber • Fan Belts • Radiator Hose • Packings • Brake Linings • Brake Blocks Clutch Facings • Asbestos Textiles • Sintered Metal Parts • Bowling Balls



A REEVES Vari-Speed Motor Pulley is now standard equipment on the new Kidde-Arwco High Speed Twist Rather pictured here. The REEVES unit provides a continuous range of speeds so that the most efficient production rate is always available. Thus, REEVES Variable Speed Control is making another valuable contribution to the textile industry.

The Three Basic Reeves Units

VARIABLE SPEED TRANSMISSION provides infinite, accurate, stepless adjustability over a wide range—as high as 16 to 1. Sizes to 87 hp.



VARI-SPEED MOTOR PULLEY converts any standard, constant-speed motor to a variable speed drive. Speed variations to 4 to 1. Sizes to 10 hp.

VARI-SPEED MOTODRIVE (R) combines motor, speed-changing mechanism and gear reducer in one unit. Speed variations as great as 10 to 1. Sizes to 25 hp.

Better Fabrics for Less...with REEVES Variable Speed Control!

Throughout the textile industry, REEVES Variable Speed Drives are at work—bringing about uninterrupted, high-speed production . . . uniformly higher quality . . . and lower costs! REEVES units are in operation on virtually every type of machine used in the preparation, fabrication, spinning, twisting, or finishing of yarn or cloth. They provide the close control of speed necessary to accommodate variations in texture, weight, temperature, humidity, or operator skill.

Naturally, no one type of unit can be the most efficient for every speed control problem. So REEVES offers a complete line—three basic units, each available in a wide range of designs, sizes, capacities, and speed ratios . . . controlled with the turn of a handwheel, the touch of a button, or automatically, without stopping production.

A REEVES field engineer, thoroughly familiar with textile mill operations, will be glad to meet with you to discuss your particular speed control needs. Write for his name and for your *free* copy of Bulletin No. W79-G.

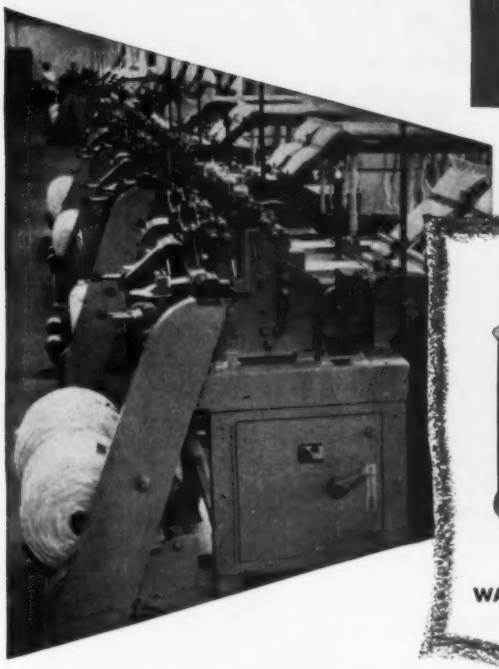
REEVES PULLEY COMPANY • COLUMBUS, INDIANA

Recognized Leader in the Specialized Field of Variable Speed Control

accurate · variable

REEVES *Speed Control*

you can't argue with PROFITS



WARNER & SWASEY PIN DRAFTER

- Eliminates costly steps in preparation of sliver for roving
- Uses either combed sliver or ball top
- Delivers to coiler cans or to single or double creche balls
- Applicable to Bradford, French, or American systems
- Handles wool or synthetics—blends of either or both

...so another mill is now completely equipped with PIN DRAFTERS

HERE'S a typical case history from another mill. This mill first installed small batteries of Warner & Swasey Pin Drafters in their combing and drawing departments. The tremendous profit possibilities of these new machines were immediately apparent. The mill then ordered enough additional Pin Drafters to completely equip these two departments.

Why? Because the Pin Drafters turned out a better product at a higher volume. Waste was cut in half, with additional savings made possible all along the line. And because the Pin Drafters require fewer operators, labor costs were reduced substantially.

But don't think this is an exceptional case. Our Field Engineer in your territory will be glad to show you in detail how the Pin Drafter can boost profits for your mill. Get in touch with him soon.

WARNER & SWASEY
Cleveland
TEXTILE MACHINERY DIVISION

BRANCH OFFICES:
61 Rivulet St., North Uxbridge, Mass. 6910 Market Street, Philadelphia, Pa.
Candler Building, Atlanta, Ga.

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS . . . WITH A WARNER & SWASEY

MAKE YOUR BALING A *Profitable* OPERATION *with a* LOGEMANN BALER

Tell Us Your Baling Problems

THAT'S the best way to get the right answers to low-cost time-saving baling. During our sixty years of building balers for the textile industry we've solved many a baling problem for factory owners. Our engineers know how to make baling operations pay their own way in time and labor-savings, in speedier, more reliable handling of bales, in lower maintenance costs. Many Logemann balers have been in profitable operation since the turn of the century—evidence of the ruggedness, durability, and long service life of Logemann baling presses.

In the interests of better baling operations in your factory, find out what Logemann balers can do for you. Tell us what your specific problem is. We'll gladly show you how it can be answered in terms of better bales at lower costs and make a specific recommendation based on your requirements. Write for information today.

LOGEMANN BALING PRESSES

We have furnished many deep box Hydraulic Balers to the synthetic fiber industry where controlled bale weights and densities are most important. In every instance, Logemann Deep Box Hydraulic Balers have proved highly satisfactory.

Open balers for finished goods may be hydraulic or power-driven. Give platen dimensions required, maximum height of pile to be compressed, number of bales per hour, when requesting information on open balers.

Box balers for waste may be obtained in either the hydraulic or power-driven type. Mention the kind of waste to be baled, how much in how many hours, the preferred size or weight of bale when inquiring about box balers.

LOGEMANN BROTHERS CO.

3100 West Burleigh Street • • • Milwaukee 10, Wisconsin

COMPARISON PROVES the VALUE of VEELOS the Adjustable V-Belt...

IF you use v-belts you'll be interested in this clear statement of facts about VEELOS, the link v-belt, and endless v-belts.

These 4 reels of Veelos provide up to 316 standard v-belt sizes.

COMPARISON TABLE
VEELOS and ENDLESS V-BELTS

what about...	Veelos V-Belts	Endless V-Belts
ADJUSTABILITY	*Any* length can be provided for *any* v-belt drive due to link construction.	Standard or special lengths must be supplied for *individual* drives.
INVENTORY	MINIMUM INVENTORY. 4 reels can care for every v-belt need in the O, A, B and C widths. No deterioration or obsolescence of spare belts.	LARGE INVENTORY. 316 sizes are required to provide a *complete* stock in the O, A, B and C widths. Spare belts not immediately used will age and deteriorate.
STOCKROOM STORAGE	SMALL SPACE. It takes less than 2 square feet of wall or floor space to store 4 reels of easily identified Veelos.	LARGE SPACE. Walls and ceilings are often covered with stocks of endless v-belts. Identifying and maintaining full stocks is difficult and costly.
INSTALLATION	Installs quickly *on any drive* without resetting motor or tearing down outboard bearings.	Necessary to reset motor and tear down drives with outboard bearings.
MAINTENANCE	Belts can be adjusted or replaced without moving the motor.	Sliding or pivoted motor bases are necessary to replace endless v-belts. Belts cannot be adjusted individually.
OPERATING EFFICIENCY	Full power delivery can be maintained because the tension of each belt in a matched set is kept uniform by removing or adding links.	Individual belts cannot be adjusted to maintain uniform tension and provide full power delivery.
DRIVE LAYOUT	No limitations are imposed by belt length.	Limited by the availability of standard or special belt lengths.

If you would like to learn more about Veelos—how it can save you money and keep your machines producing—write today for your copy of the Veelos Data Book. It's free and full of facts!

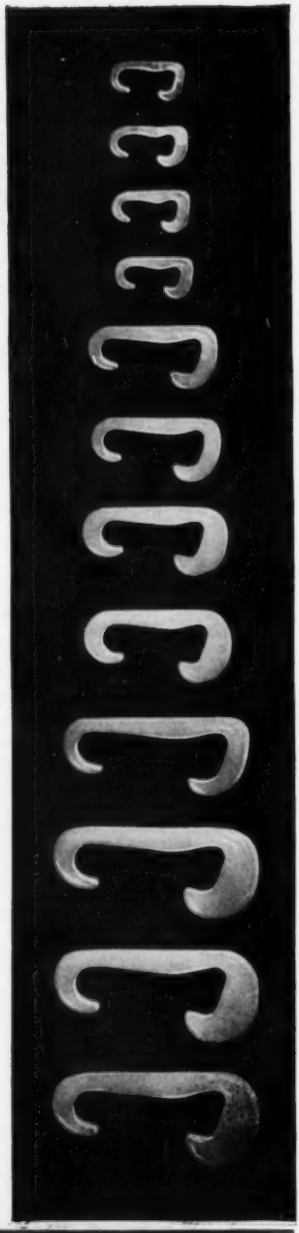
VEELOS
THE LINK
V-BELT

MANHEIM MANUFACTURING & BELTING COMPANY
MANHEIM, PENNSYLVANIA

... ADJUSTABLE TO ANY LENGTH ... ADAPTABLE TO ANY DRIVE

Made in all widths in three types: regular, oil-proof and static conducting. Also double V in A and B. Packaged on reels in 100-foot lengths. Sales engineers in principal cities; over 350 distributors throughout the country. VEELOS is known as VEELINK outside the United States.

INVESTIGATE
nylon travelers



PROVE TO YOURSELF THESE IMPORTANT ADVANTAGES

1. Higher spindle speeds.
2. More yardage on your present bobbins.
3. Much less lubricant required.
4. Less end breakage.
5. Longer life. Less down time for changing travelers.
6. Cleaner frames—cleaner rooms.

1. LIGHT
2. STRONG
3. RESILIENT
4. SMOOTH
5. TOUGH
6. EXTREMELY RESISTANT TO WEAR

Many thousands of these Nylon Travelers are in daily use—giving complete satisfaction.

SEND FOR SAMPLES

MANUFACTURED BY
THE CLARK THREAD COMPANY, INC.
264 Ogden Street, Newark 4, New Jersey

SELLING AGENT
THE SPOOL COTTON CO.
264 Ogden Street
Newark 4, New Jersey

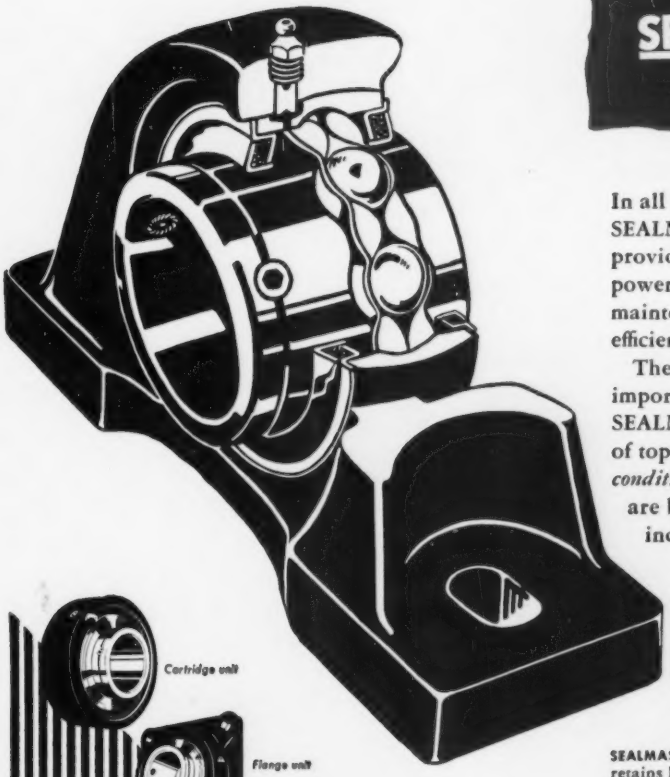
Wherever used...

THEY ADD

BUILT-IN PERFORMANCE

SEALMASTER

BALL BEARING UNITS



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TEXTILE MACHINE WORKS • READING, PENNA.

HOW TO HELP BRITAIN ...and Ourselves

The purpose of this editorial is to help Winston Churchill obtain the aid Britain needs

(1) to weather her present financial crisis, and

(2) to avoid a chronic recurrence of such crises.

This is not a philanthropic purpose.

Britain is our staunchest ally in the free world's continuing fight for survival. She cannot perform her role effectively if she is broke, or if she careens from one financial crisis to another.

Then, too, a nation such as ours—committed to private enterprise as a way of economic life—has a special interest in helping Winston Churchill to help Britain. His administration is relatively friendly toward private enterprise. Should he fail, he would be replaced promptly by a Socialist government more hostile than ever. And that would weaken the standing of private enterprise in the free world.

Cause of the Crisis

It is the drive of the Western World under our leadership to rearm against Russian aggression that has precipitated Britain's financial crisis. It set off a scramble for raw materials from which armaments could be made, and for many other materials that might be short in the event of war. So the prices of the things that Britain must import—mostly raw materials—have been boosted more than the prices of things she can export—mostly finished products. That leaves Britain short of funds to pay for essential imports. This difficulty increases as the necessity becomes more urgent to divert industrial effort from production for export to production for security.

The Basic Trouble

Although Britain's immediate crisis was touched off by the rearmament drive of the Western World, her basic affliction is one from which she has suffered since the end of World War II. Stated in its simplest terms, Britain does not produce enough goods to pay her own way as one of the family of free nations.

For years this deficiency in home production was made up by income from shipping and overseas investment. But Britain had to sell a large part of her foreign investments to finance her heroic part in World War II. So her income from that source has been greatly reduced. And, in spite of an increase of about a third above prewar in her own production of goods and—thanks to a continued "austerity" program—a much larger increase in her exports, Britain still is not paying her own way.

Two Ways to Solvency

Britain has two ways to restore her solvency. One is to cut down on what is consumed—the belt-tightening process. The other is to step up British production.

To surmount the present crisis, Mr. Churchill has asked for some cutting down. He probably must ask for more.

Except as a stop-gap expedient, however, more cutting down of Britain's consumption is clearly a dangerous course. That would further depress a British standard of living which, not more than half as high as ours, already is too low. Politically such a course would grease the skids for Winston Churchill's administration, even now governing by a wafer-thin parliamentary margin. Also, as *The* (London) *Economist* remarks, the "lazy expedient of cutting trade" would result in "hurting other people and forcing them to take similar action"—by cutting the market for their products.

The Only Cure

The best and, in fact, the only way to help cure Britain's economic ills is to help Britain produce more. Here the technical possibilities are encouraging. On the average, the British industrial worker produces only about 40 percent as much a year as the American worker. That is a British estimate, made by Sir Ewart Smith.

Wider use of better industrial methods and modern tools and an infusion of the competitive incentive into British industry — to replace the cartel and other restrictive practices — would go a long way to narrow this wide gap in worker productivity. This is the consensus of experts on both sides of the Atlantic.

Since 1948 the Anglo-American Council on Productivity has done much to encourage output per man-hour in Britain and to foster this doctrine with both labor and management. But much yet remains to be done.

In the United States it is increasingly suggested that before we give Britain any more economic aid we should insist that everything possible be done to exploit the technical possibilities of increased production. This emphasis on production is needed. But if we Americans were to impose upon the hard-pressed British people conditions that could be construed as an affront to a friendly and sovereign nation, we might well put into the hands of a masterful rabble-rouser such as Aneurin Bevan, the anti-American leader of the Labor Party's left wing, a campaign issue on which to maneuver himself into the Prime Ministership.

Churchill Can Insist

But Winston Churchill is not so handicapped as we should be in imposing prerequisites of further aid. As Britain's own, most honored leader he will raise no touchy questions as to Anglo-American relations if he insists that Britain have firm plans to cure her economic ills, plans sharply focussed on ways and means of increasing Britain's industrial efficiency.

By presenting a convincing plan to cure Britain's recurring crises through greater production, Mr. Churchill will greatly facilitate the process of getting the aid his country must have. He will also remove an increasingly dangerous element of dissension in Anglo-American relations — the feeling of many Americans that more aid to Britain is more money down the drain. The way to counter that feeling is to come up with a prescription for an economic cure, not a request for another economic poultice.

Technically, such a program is entirely feasible. It will perhaps be the supreme test of Winston Churchill's statesmanship to make it politically feasible as well.

In the interest of Britain, of the United States and of the whole free world, we wish him all success.

McGraw-Hill Publishing Company, Inc.

TEXTILE WORLD
VOLUME 102 • NUMBER 2

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FEBRUARY • 1952

WHAT'S AHEAD for '52?

- **Business should level out, without '51's early soar and late dip**
- **Fiber prices should be steadier**
- **Wages may increase**
- **Foreign competition will increase**

By P. M. THOMAS, Editor, TEXTILE WORLD

THERE'S NOTHING in the textile picture to indicate a business bonanza in 1952, but there's also nothing to indicate a flop.

In the last half of 1951, we paid (we hope) for the lush buying in the first half that overstocked jobbers, retailers, and consumers. Now, inventories are at a healthier level, and the consumers' money supply is still high and still increasing.

Personal income in the latter months of '51 was approaching the annual rate of $260-million—hiked mostly by government pay raises and marketing of farm products. The seasonal boost of farm products will not carry over into early 1952 to any great extent, but the salary boost will. Also, industrial wages are on the upbuild. The escalator clauses in union contracts (including many New England textile mills) will raise pay somewhat as the cost-of-living index inches upward. And if the steel industry sets off another round of wage increases, still more dollars will be put into consumer pockets.

Washington is pumping for another whopping big farm crop—4% bigger than 1951's record-breaker. Come fall, another jam of dollars should flow into the hands of textile consumers.

So it looks as though there will be no shortage of dollars to slow up textile business.

Business in general is expected to be good, with military spending and plant expansion expected to increase. These two factors more than any others spark national prosperity.

But the real question to textile men is: Will we again have a "recession" of textile business in an over-all economy of prosperity?

Sober estimates are that business will be better than the July-December period of '51 but not so good as the January-June period, with the year averaging out possibly a little below 1951. The best indicators that business will improve are the increase in personal income discussed above and the increase of sales of consumer textile items. Clothing store sales, for example, in November '51 were ahead of October '51 and also November '50—indicating that the consumer is back in the market.

If no great and unexpected pressures develop, 1952 should be a good year, neither a "feast" nor a "famine" year—a good year to work at improving methods, maintenance, personnel relations, job layouts, training, quality, waste and seconds percentages, etc.

FIBER PRICES. Fiber prices to mills should be more stable this year than last year. With plants being built to manufacture acrylic-type synthetic fibers, the price of wool should hold relatively steady. At least—barring world-shaking events and a dizzy spiral of government stockpiling—there should be no repetition of 1951's wild ride of price speculation.

Cotton prices also should hold more steady. There is not now the short supply on hand with which we went into '51 and which forced the price up to the 45¢-per-lb. range. The 15.3-million-bale crop of '51 gives a fairly comfortable cushion for a domestic consumption of something like 9-million bales. Only too much exporting could threaten the supply and create undue price pressure.

The goal for this year's crop is 16-million bales. Cotton men say it's not likely. The main reason is the early-season 17-million-bale government prediction for the 1951 yield that sent prices tumbling to about 35¢. Farmers are still grumbling about it.

Another factor against the 1952 goal is warnings of dust storms on Texas cotton land. In the droughty fall of '51, many Texas farmers anxiously watched sand blowing on acres planted to cotton. Experts doubt that enough acres will be planted this year to yield the 4.8-million bales Texas is slated for by Washington.

So we go into '52 with the two most disrupting price pressures removed: (1) early-season short supply and (2) late-season estimate of a bumper yield. Unless the government fumbles on one of these scores as the year progresses, cotton prices should remain more stable than last year.

Synthetic-fiber prices will, of course, remain steadier throughout the year than natural-fiber prices. And use of synthetic fibers will, as usual, continue to expand, at least as a percentage of total fiber consumption.

The big fiber news in '52 very likely will be availability of acrylic and polyester fibers and mill activity in experimenting for end uses for these fibers. Du Pont's Orlon-staple plant goes into high-gear production early this year.

Wool will take the beating. Man-made fibers, as is well known, have many characteristics similar to wool and will be used for many purposes that wool is now used for. But woolen and worsted mills need not be hurt. They will simply switch to the synthetics, as many are doing now in varying degrees.

Wool will also be ousted to considerable extent by the older synthetic fibers. Rayon replaced wool in more suitings and carpets in '51. Bigelow-Sanford, for example, raised its use of rayon in carpets to 27% of its total fiber use. Bigelow, among other carpet manufacturers, bought a rayon-producing plant; and has announced the 27% rayon-content figure will be upped in '52 to 75%.

MACHINERY. Mill purchases rose to a new all-time high in 1951, with spinning and weaving machinery and major auxiliary equipment leading the way and more than making up for decreases in some other fields. In general, mills come into 1952 in the best physical condition the industry has ever known. Productive capacity is enormous, and increasing all the time.

Efficiency over-all is steadily rising. Unannounced, but currently being installed in mills, are new and more efficient spinning and spooling machinery. In many cases, purchases of

spinning frames are being held up by mills until the story on the new machinery is in black and white. About a 50% price increase must be justified, in the case of the spinning frame. By the end of '52, decisions on such equipment will be reached by many mills.

MIGRATION. In broad terms, the most important long-range factor in textile activity is the industry's surge Southward. The migration of '51 will continue in '52 and on into later years unless (1) a national emergency removes competition, or (2) New England comes up with a serious program for clearing the textile-business climate in that area so that Yankee mills in general can compete with Southern mills. Chances are neither will happen.

WAGES. At the time this article is written, a strike over wage increases in the steel industry is threatening. By the time this article appears in print, the issue should be decided. If an increase is won—as it likely will be—the textile industry, particularly in the South, will be in for wage-increase pressure. Late last year a few mills in the South granted increases. This year the increase may spread. If it does, New England will probably be caught in a squeeze. If New England must raise wages beyond the automatic cost-of-living escalator-clause raises, the South will be faced with new pressure.

Through all the pressures and counterpressures will be tacit support from the Administration in Washington for "Labor" in an election year.

JAPAN AND INDIA. Foreign competition will get a little more serious in '52. Japan's cotton-mill spindles approached 5-million, from the neighborhood of 4-million after the war. In spite of Japan's promises of "fair competition," she hopes to return to her 12-million prewar spindleage. Already 10¢-store counters are loaded with the "Made in Japan" label. Gray-goods cotton mills will soon feel Japan's "fair" competition.

India is steadily becoming a textile-export factor. In 1950, she was the world's No. 1 exporter of cotton goods, with Japan second. In '51, several new mills started up in India. More are being built.

It is historic that as underdeveloped areas become industrialized, the manufacture of coarse cotton goods largely leads the way. Long-range, U. S. mills can stay in this market only to the extent that the domestic market is protected by import duties and mill costs are lowered by steadily increasing efficiency. If the "free-world market" that international politicians talk about develops, U. S. mills will have little place in the cheap-cotton-goods market.

UNION ACTIVITY. The Emil Rieve-George Baldanzi feud in the TWUA (CIO) will come to a test when the union voters get together early this year. As mill men see it, it doesn't matter which man comes out in top position and which, if either, gets canned. The CIO will still go ahead pretty much as it has.

This year will see steady attack by the unions on unorganized mills, with success and failure largely following the pattern of the last several years. Some mills will be taken; others will not; still others will slip through the fingers of the union.

Long-range, the most serious threat to textile unions in New England is the steady loss of mills in that area. When a mill moves out of New England, it leaves the union with one less customer.

In the South, mills are finding a slow but steady growth of "fringe" unionization. As unionized industries other than textile increase in that area, the population becomes more imbued with the idea of unionization. In the long run, this fringe of unions around mill workers may prove a more potent influence toward unionization of the textile industry than the direct efforts of mill organizers.

IN GENERAL. 1952 should be a more relaxed year for the textile industry than 1951. Probably as good a keynote as any would be confidence tempered by caution. The Great Influence will be international politics; the Minor will be the fall elections. The direction these influences will take is anybody's guess.

MILL PRODUCTION

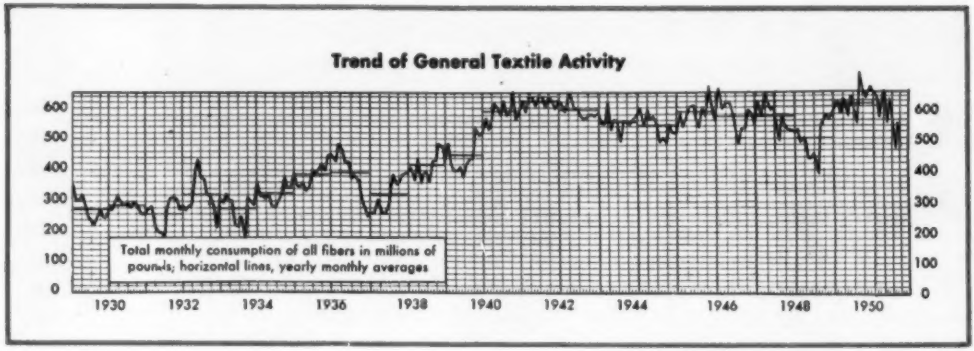
PRODUCTION Levels Off After First Korean Bulge

- Yardage-rate curb follows consumer mid-year price resistance
- But annual production drop from 1950 peak was modest
- Reduced stocks and rising demand enhance 1952 prospects

By McGraw-Hill Dept. of Economics

TEXTILE PRODUCTION during the first quarter of 1951 held close to the record rate of the closing months of 1950. Supported by large order backlogs, output was fairly well maintained during the second quarter also. But the slow rate of new orders resulting from substantial inventory accumulation at most trade levels at the halfway mark forced sharp production curtailments after mid-year. For the year as a whole, however, the TEXTILE WORLD index shows that textile-mill activity was only moderately below the 1950 post-World-War-II peak.

Cotton broad woven goods output in the first half of 1951 totaled 5,495,000,000 linear yards, a gain of 13% over the 1950 period and about 9% above the preceding 6 mo. Also at record levels was production of rayon broad woven goods, which rose 8%



over the first half of 1950. Woolen and worsted goods output, however, fell some 7% in the first half of 1951 in spite of substantially larger military shipments.

Sustained textile production in the 12 mo. ended June, 1951, exceeded expected military and consumer requirements. As a result, inventories expanded to excessive levels. Manufacturers' inventories of textile-mill products rose almost steadily from $1,016,000,000 at the end of May, 1950, to $1,432,000,000 at the end of May, 1951. Stocks declined thereafter as retail sales of soft goods continued above the 1950 average and mill-production schedules were curtailed. Third-quarter mill-output figures were off sharply.

PRICE SITUATION. Prices of textile products, which at the end of the first quarter were about 25% above the 1950 average, declined moderately during the second quarter of 1951 because of increasing competition. By the end of the third quarter, textile prices as a whole were about 11% below the earlier high under pressure of inventory liquidation and restricted demand. New orders were limited as buyers became apprehensive over the general textile price structure.

Wool prices tumbled during the second and third quarters, with a drop from peak levels of almost 50%. Raw cotton, which held above 45¢ a pound for several months through most of June, or close to ceiling prices, fell sharply with the first government new-average report and trade estimates that forecast up to a "possible" 18,000,000-bale crop for 1951. During August, cotton was quoted below 35¢ a pound; and cotton print cloth, priced close to 29¢ in March, was being sold at 19½¢.

Little variation in prices of textile products occurred in September and October. There were only scattered increases for cotton prices and for some types of synthetic goods. Some firming of prices took place in raw cotton and wool during October.

Trade sentiment was showing signs of improving by early November. With second-hand offerings of cotton and rayon goods limited, indications were that inventories at most trade levels had been considerably worked down. Moreover, retail inventories had been reduced to a level in line with consumer-demand prospects. Department-store stocks at the end of October were slightly below the same date in 1950, compared with 34% larger stocks at the end of April.

COTTON PRICE RISES. However, buying interest remained spotty until a surprise was experienced on Nov. 8 when the U.S. cotton-crop estimate was released, forecasting a total production of 15,771,000 bales. This figure was considerably below expectations and 1,160,000 bales below the Oct. 1 forecast. Substantial bids were made for cotton cloth. Larger mills generally withdrew offerings to recalculate costs in view of higher raw cotton prices, which soon advanced above 43¢ a pound.

Mill-operating rates increased during November and December as cotton mills received forward orders through the first quarter of 1952, while demand expanded for various types of rayon fabrics also. Rayon mills again put into operation some looms that had not been running and consequently increased their orders for yarn from primary manufacturers. Consumer buying of apparel increased in the closing months of 1951 so that the public appeared to have assumed a slightly freer spending attitude after a lapse of about 8 mo.

Textile World's Textile-Mill Activity Index

(1923-1925 average = 100)

1929.....	115	1941.....	188
1930.....	89	1942.....	198
1931.....	93	1943.....	189
1932.....	83	1944.....	177
1933.....	104	1945.....	173
1934.....	90	1946.....	187
1935.....	105	1947.....	182
1936.....	124	1948.....	180
1937.....	125	1949.....	159
1938.....	103	1950.....	197
1939.....	132	1951.....	195
1940.....	142		

1952 PICTURE IN BRIEF

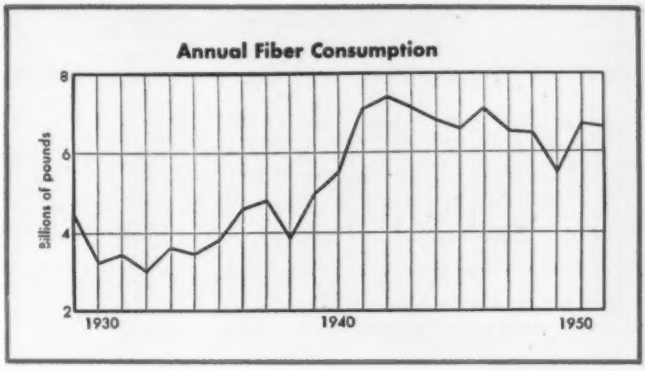
COTTONS. Mill-order backlogs at the close of 1951 were considerably smaller than a year earlier, but the demand outlook was more promising. In our forecast of a year ago we stated: "These orders represent a gamble on the part of converters and retailers, who are hoping that after-Christmas sales and a big Easter season will keep inventories from becoming unmanageable."

Currently, however, a much sounder basis exists for a steady and growing demand for mill output. In the apparel trades, excess inventories have been largely worked-off, and forward commitments are conservative. Retail stocks are in better balance than a year ago; retailer commitments should increase in line with the favorable outlook for consumer demand during the spring and summer season for apparel and other textile products. This rise should be reflected in more active forward buying by cutters and in turn by converters. Thus, cotton mills may look forward to a rising backlog of orders through the first half of 1952, in contrast with a decline after the opening months of 1951.

A rise in mill operations is also favored by expansion in general industrial production, whereas over-all business activity headed downward during the middle two quarters of 1951. In

addition, direct purchases of cotton textiles by the Armed Forces will be accelerated in the first half of 1952; this buying was held back during the final half of 1951 because of delays in appropriations.

Some recovery in cotton-mill production will take place during the first half of 1952. But total yardage is likely to fall short of the 1951 record. A sharp year-to-year increase is expected in the final half of the year when industrial production and disposable consumer income are likely to be at peak levels. Should the spring season exceed retailers' expectations and the military continue to hold to currently planned spending, final-half output may be limited only by the supply of raw cotton.



RAYONS. Overconfidence on the part of rayon weavers and converters, even after signs of slackening business, during the first quarter of 1951 resulted in the accumulation of large stocks of many types of rayon fabrics. Some confidence was justified by the underlying growth in several outlets like suitings, tire cord, new synthetic blends, and carpets. Industry cutbacks in 1951 were largely concentrated in filament-yarn products like dress goods and piece goods.

Gyrating wool prices during the last two years should divert additional manufacturers to greater use of rayon and other man-made fibers. New markets are being developed for various blended fabrics of natural and synthetic fibers that give both better-quality end products and consumer price appeal. In addition to expanding apparel uses, new industrial fabrics will also enlarge the market for rayons and other synthetic fibers.

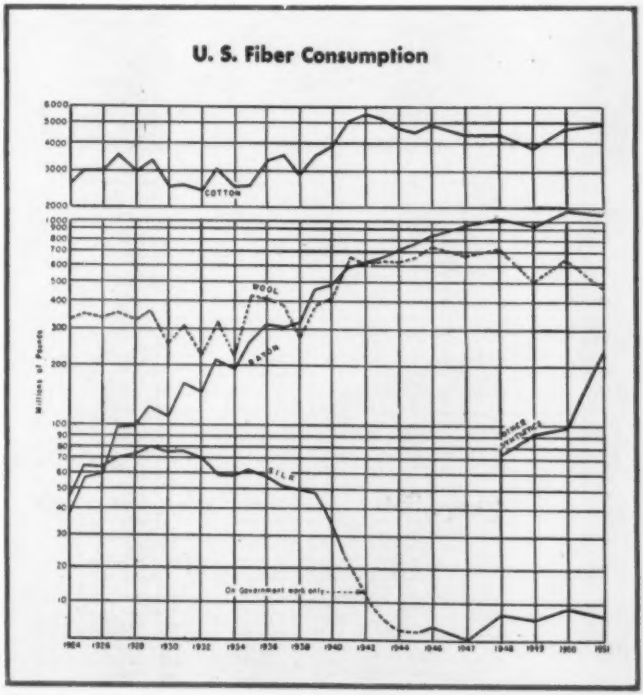
The reduced volume of automobile-upholstery fabrics coming up may be largely at the expense of wool. Fabric specifications by the Armed Forces have been trending more and more toward synthetic blends, and record military takings appear in prospect. Tire production is expected to be well maintained. With a greater proportion of tire output slated for military vehicles, demand for rayon tire cord probably will rise to a new peak. Demand for rayon products is also likely to be favored by rayon's probable price advantage over cotton; cotton prices will be kept up by the small crop carryover in prospect and by political pressure.

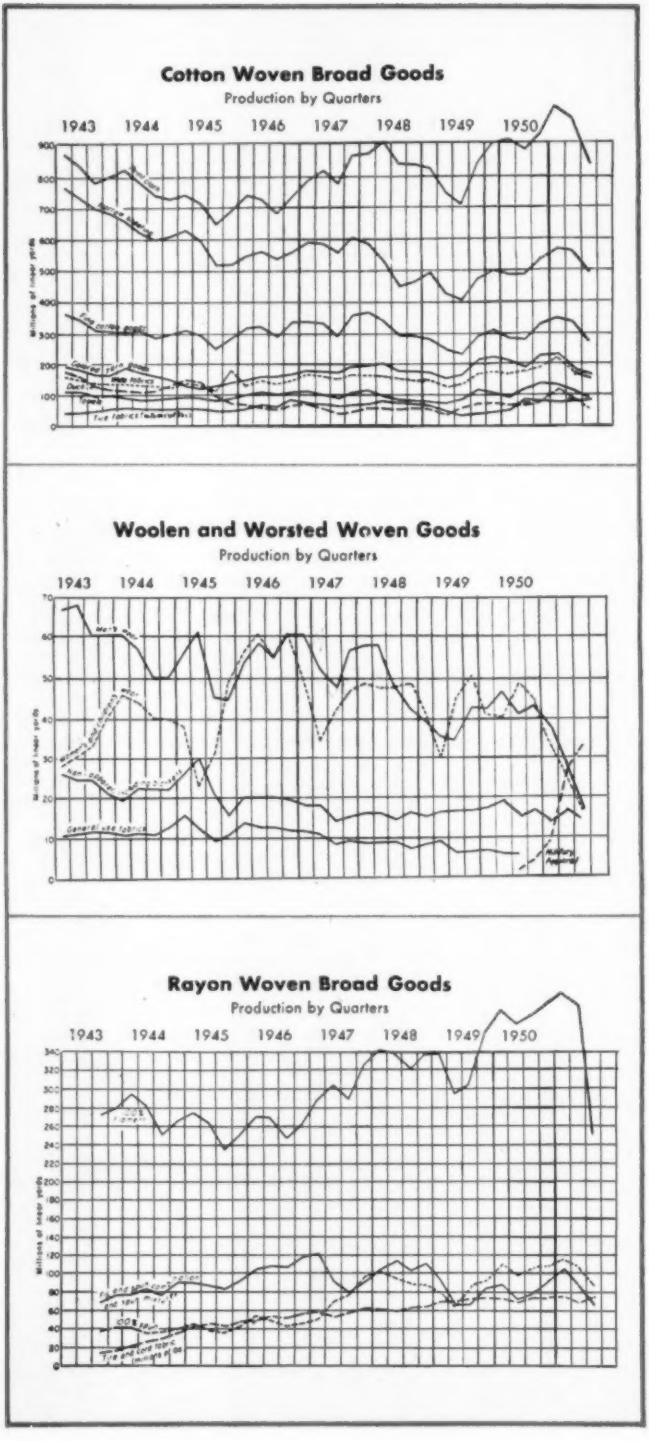
Increased capacity of rayon filament yarn and staple, as well as of the newer synthetic fibers and filaments, will provide ample supplies through most of this year, although output late in 1952 could become hampered by various chemical shortages.

In the first half of 1952, mill production will be below the very high level reached in the first half of 1951. Inventories are still high in some rayon lines, and orders for spring so far have been poor. So no real gains in production are likely before the second quarter, at which time manufacturing for fall lines gets into swing. So a sharp final-half gain is indicated for 1952 over 1951.

WOOLENS. Wool consumption for civilian use declined sharply during 1951. However, the drop in total apparel-wool consumption of about 10% was modified by expanded military orders. About 20% of apparel fabric output in the first half was for the military, compared with less than 3% a year earlier. Military backlogs were fairly well worked off by the end of 1951, and indications are that new business may be limited in that immediate needs apparently have been well covered by the heavy buying late in 1950 and early 1951.

The drop in sales to apparel makers was forecast in our review last year because of large retail clothing stocks




Cotton Woven Broad Goods
Production by Quarters
1943 1944 1945 1946 1947 1948 1949 1950
Woolen and Worsted Woven Goods
Production by Quarters
1943 1944 1945 1946 1947 1948 1949 1950
Rayon Woven Broad Goods
Production by Quarters
1943 1944 1945 1946 1947 1948 1949 1950

and consumer price resistance. Heavy promotional activity late in 1951 suggested that inventories remained large; prices had to be cut to attract consumer buying. Use of synthetics in the men's apparel field made further inroads; only about 35% of summer-weight suits used 50% or more wool. Sharp gains by fibers other than wool were reported in regular-weight suits also.

Carpet-wool consumption in 1951 fell an estimated 50%. As in the case of apparel, large inventories and high prices helped restrict demand. In regard to total fibers consumed in the manufacture of carpet yarns, rayon made fantastic gains. Its use rose from 4.8% of the total in July, 1950, to 34.2% in July, 1951. Consumer acceptance of improved rayon carpets, and rayon price stability in contrast to wide price swings in wool are expected to produce a continued gain in use of carpet rayon next year at the expense of wool.

Gradual inventory reduction and favorable demand prospects for civilian apparel should result in recovery in apparel-fabric output for the 1952 fall season. However, wool gains are likely to be limited by the increased use of synthetic fibers. Total output of woolen and worsted goods may thus again be lower this year since it appears unlikely that military requirements will approach the high rate reached during the major part of 1951.

KNIT GOODS. Knit-goods manufacturers were forced to cut back output during 1951 along with some other divisions of the industry. Hosiery shipments were off 5.8% (first eleven months), with the drop in full-fashioned hosiery somewhat larger, at 6.2%. Wool knitting-yarn shipments fell 34% in the first 39 weeks of 1951, compared with 1950. Rayon circular-knit-goods output was off 7.3% in the first three quarters, but warp-knit-goods production rose 17.5%. An increase of about 10% was also reported in the consumption of yarns by knit-underwear and nightwear manufacturers.

Demand improved in the closing months of 1951, particularly for hosiery, tricot lingerie, and winter underwear. Inventories in the hands of retailers and distributors were worked-off to more normal levels. With consumer demand in an indicated uptrend at the turn of the year, improvement in consumer activity should continue well into this year. And whatever demand ends up as being, raw-material supplies should be adequate to permit a greater knit-goods total output than was achieved in 1951.

1951 EQUIPMENT PURCHASES By Mills Set Another Record

- Spinning, weaving, and auxiliary-equipment purchases send mill-purchasing index to new high
- New-machinery production to be reduced severely in 1952 by material shortages

By **WILLIAM A. NEWELL,** Managing Editor, TEXTILE WORLD

IN SPITE OF THE slump that hit textile prices and textile-mill activity in the last half of 1951—the degree depending on what branch of the industry you're talking about—the index of purchases of textile machinery and supplies rose to a new record level. Unit purchases, however, probably rose only slightly, if at all, since the index reflects dollar volume only and is not adjusted to the value of the dollar.

The TEXTILE WORLD index of dollar volume of machinery purchases for 1951 is 433. The 1950 index was 399. Both indexes are higher than 1949 (367) and 1948 (394). In the index, 1929 equals 100.

Purchasing by mills was strong in the first six months, weak in the next four months. Purchases picked up somewhat in the final two months of the year, but not to the level of the first six months.

These generalities, however, do not reflect widely differing levels of purchasing by individual industry branches. Purchases of spinning and weaving equipment, down about 14% in 1950, regained that loss almost twice over. Purchases of auxiliary equipment, as instruments, air conditioning, drives, materials-handling equipment, etc., were also strong, as they were in 1950. These purchases showed about a 20% gain over 1950.

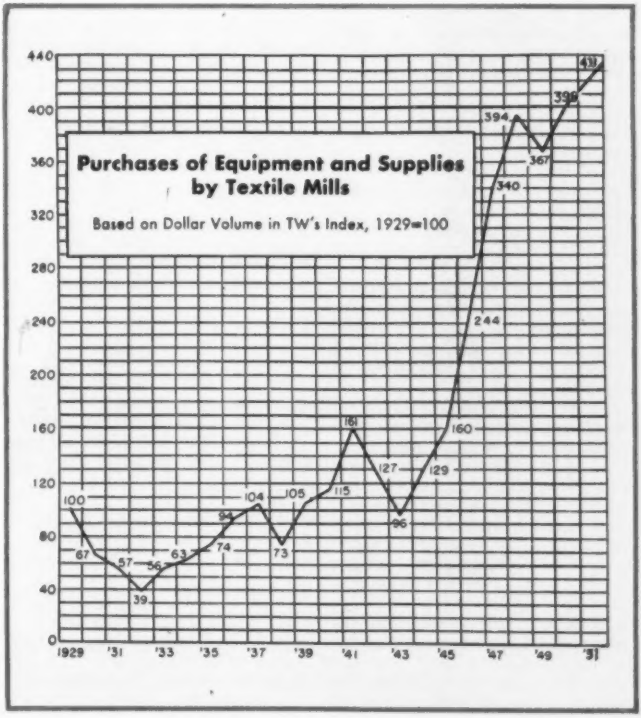
Purchases of knitting machinery and of mill supplies and accessories of all types both registered slight gains over 1950 purchases. Finishing-equipment purchases, which showed the greatest gain over the previous year in 1950, showed the greatest decline in 1951.

Availability of new machinery in 1952 is far from promising.

Decreasing CMP allotments of critical materials for textile-mill machinery will reduce the production of new equipment of all types by up to 50%. The materials picture is far from clear, but machinery producers are unanimous in feeling it will get worse before it gets better.

In our purchase survey of last year we stated, "The most important thing needed for mills in 1951 is recognition by the federal government that textile products are essential—not only for the military but for civilians." That statement still goes for 1952. Mills can help themselves somewhat by running scrap drives to divest themselves of unneeded critical materials. The availability of steel in 1952 will hinge largely on how much scrap is returned to the steel industry.

Maintenance and repair parts should be available in 1952, even if delivery in some cases is slow. Chemicals will probably be in short supply if the anticipated and, to some extent, already evident pick-up in industry activity occurs. Both these situations call for careful analysis of needs and careful, planned purchasing.



1951 a Year of MACHINERY IMPROVEMENTS

- Many small but important modifications and attachments for machines announced
- Knitting and dyeing and finishing machines account for most of major advances
- 1952 holds promise of radically new equipment, especially for yarn manufacturing

By WILLIAM A. NEWELL, Managing Editor, TEXTILE WORLD

EXCEPT FOR SEVERAL new major machines, especially for knitting and dyeing and finishing, 1951 was a year of gadgets. Good gadgets, but gadgets nevertheless. And, following the tremendous advances shown in 1950 at the American Textile Machinery Exposition and the Southern Textile Exposition, it couldn't have been a year of further great advances. But the gadgets—mostly small but good improvements in processing equipment—demonstrated the ever-pressing efforts of machinery manufacturers to experiment and modify toward the ultimate perfection of their equipment.

1952, on the other hand, holds forth great promise of major new machines. Some may not come along even in 1952, but from what is known of developments in the making, they will be startling.

Formal announcement of the Saco-Lowell Gwaltney spinning frame is expected early in the year. Development of a modified spooler designed for use with this new frame is under way at Barber-Colman Co.

A prediction of revolutionary changes in cotton opening and picking equipment was made recently by Paul C. Grant, Jr., Whitin's opening and picking machinery expert. Research now going on at Whitin, Mr. Grant stated, indicated that some of the present cotton-opening and cleaning methods were not only unnecessary, but actually detrimental to the fiber. The need for fewer machines and a reduction in fiber damage and nep formation will eventually result from this work.

Saco-Lowell, too, is working on the problem, and a new machine, not yet officially announced, the trash ejector, designed to beat out heavy impurities and float out light impurities, is under development. It is also rumored that Whitin Machine Works, long dissatisfied with the quality of worsted top available for its American System of worsted spinning, may be working on a new worsted comb.

While production of textile machinery will be considerably reduced in 1952 because of shortages of raw materials, development work will continue, and radically changed equipment will be shown to the industry in 1952, 1953, and at the next scheduled American Textile Machinery Exposition in 1954.

Major advances were made in 1951 in knitting equipment and in dyeing and finishing equipment. New knitting equipment of almost every type was shown by virtually every machine maker at the 1951 Knitting Arts Exhibition. New dyeing and finishing equipment and methods for doing a better job on both natural and synthetic fibers were also introduced.

Some of the major new machines announced in 1951 were the following, and were described in TEXTILE WORLD in the issue and on the page given:

Yarn Manufacturing

Ambler Superdraft system, McGlynn Hays Industries, Inc., Mar., p. 159
Trash ejector, Saco-Lowell Shops, Aug., p. 150
Superdraft porcupine and rectilinear comb for long-staple synthetics, Stellite American Corp., July, p. 143
Air-free cotton cleaner, Thornbury Machine Works, Sept., p. 165
Triple-deck uptwister, U. S. Textile Machine Co., June, p. 120
Rectilinear comb for synthetics, Officina Meccanica Sant' Andrea, Ernest Frankl & Associates, Nov., p. 178.

Warp Preparation and Weaving:

Model-B hot-air slasher dryer, Bachmann Uxbridge Worsted Corp., Dec., p. 167.
Convertible box loom (for multi-shuttle and single-shuttle weaving), Crompton & Knowles Loom Works (not officially announced).
Hydropulse homogenizer, Scott & Williams, Inc., July, p. 144
Reed-cleaning and polishing machine, H. J. Theiler Corp., June, p. 151
Gara selvage trimmer, Muschamp Taylor Ltd., Aug., p. 146

Dyeing & Finishing:

Hot-oil dyeing process, General Dyestuff Corp., May, p. 154
Continuous raw-stock dyeing machine, General Dyestuff Corp., May, p. 147
Compartment-type open soaper, James Hunter Machine Co., April, p. 129
Molten-metal dyeing process, Rodney Hunt Machine Co., May, p. 158
Nylon heat-setting machine, McCreary Machine Works, Inc., Aug., p. 148
Dye-package shaper, Gaston County Dyeing Machine Co., Jan., p. 147
Boil-off machine, Hinnekens Machine Co., Inc., Feb., p. 168
London-shrinking machine, James Hunter Machine Co., Apr. p. 132
Padder, Cook P & N Machine Co., July, p. 146
Calender, Van Vlaanderen Machine Co., July, p. 146

Knitting:

New machines of virtually every type, too numerous to mention here, were introduced by knitting machine manufacturers at the 1951 Knitting Arts Exhibition. This show was reported in the June, 1951, issue of TEXTILE WORLD. For a reprint of this report, write Editor, TEXTILE WORLD, 330 W. 42nd St., New York 36, N. Y.

Instruments:

Shuttle-tension tester, J. R. Fish, May, p. 150
Automatic strength tester, evenness tester for filament yarns, and quadratic integrator, Uster Corp., Nov., p. 174.

Typical of the equipment and attachments introduced for existing machines and processes are the following, again listed with the issue and page of

1951 issues TEXTILE WORLD in which each was described.

Yarn Manufacturing:

Lap-winder-spool moistener, Saco-Lowell Shops, Feb., p. 166
Two-for-one twister spindle, C. Landolt & Co., Mar., p. 162
Bobbin-transporting attachment for winders, Werner Textile Consultants, Apr., p. 132
14-in. coiler attachment for cards, Southern States Equipment Corp., Nov., p. 182
Barber-Colman slight-taper con-winding attachment, Foster Machine Co., June, p. 152
Under-twister humidifier, Air-Perme-Ator Mfg. Co., July, p. 140
Individual cotton-card drive, American Pulley Co., July, p. 144
Universal grid bars and fringe roll for pickers, Saco-Lowell Shops, Oct., p. 165
Strip-O-Matic card clothing for fine wools and cotton, Benjamin Booth Co., Dec., p. 153

Warp Preparation and Weaving:

Dobby attachment for shortening chains for complicated designs, Ivey Morris, May, p. 152
Tight-fabric-weaving attachment, Southern Regional Research Lab., Aug., p. 143
Multiple-cylinder dobby attachment, Ivar Moberg, Aug., p. 144

Knitting:

See text above under knitting machines

Dyeing & Finishing:

"Free Loop" Electrimatic Compensator for tensionless washing, Riggs & Lombard, Aug., p. 144
Orlon dye-winch cover, Martin Weiner Co., Sept., p. 166
Top idler rolls for Tensitrol washers, Rodney Hunt Machine Co., Nov., p. 180

Instruments:

Filament-yarn evenness-testing attachment, Textile Research Dept., American Viscose Corp., Jan., p. 148

RESEARCH

Fibers, Old and New, Keep RESEARCHERS Busy

- Dyeing new fibers and blends sets research pace
- Ogden process strips and dyes wool in the same bath
- Structural faults cause cotton fibers to be weak

By P. M. THOMAS, Editor, TEXTILE WORLD

SYNTHETIC FIBERS dominated textile research in 1951 and very likely will do so again this year. With the acrylic and polyester fibers opening up broad new fields, researchers all over the country are busy seeking new techniques for utilizing these fibers and for improving the use of older fibers.

Blends of various fibers in various combinations seem to be the watchword for '52.

Probably the most critical practical-research problem last year, and carrying over into '52, was dyeing. Fiber producers, chemical companies, and mills engaged in experimental dyeing of the new synthetic fibers.

Du Pont, for example, described an application of the copper-dyeing method to Orlon acrylic fiber [TW, Dec. '51, p. 138]. Satisfactory fastness in a full range of shades is said to be attainable. Copper in the cuprous-valence state is used as an assistant for dyeing with acid and direct colors. The cuprous ion can be produced at about the same rate as it is absorbed by the Orlon fiber if a cupric salt and a reducing agent are used. The dye must have at least one sulfonic-acid or carboxyl group in the molecule.

OGDEN PROCESS. The Ogden process [TW, Dec. '51, p. 139] for stripping and dyeing reused and reworked wool in a single bath was described.

Briefly, the routine is to load piece goods into a kettle in a cold bath and add in this order: (1) dye, (2) acid, and (3) strip. The bath is brought to a boil and held for 30 min. Then 10% calcined Glauber salt is added, and the boil is continued 45 min. Then the goods are washed.

Rayon-cake dyeing for mills was explored from the angle of cost in comparison with skein dyeing [TW, March '51, p. 126]. Though the capital investment is relatively high for cake-dyeing machinery, over-all dyeing costs are about 3½¢ per lb. of yarn. Skein dyeing, including the necessary winding, costs 15¢ per lb. of yarn.

A new way to flameproof part-nylon fabrics was described by Du Pont. Nylon fabric itself is considered flameproof; but its flameproof nature can be destroyed by blending nylon with other fibers, by sizing material, or by certain dyes.

A resin treatment of thiourea formaldehyde, Du Pont says, will counteract the effects of these flameproof destroyers. In most cases, 2 to 5% of the resin is sufficient to restore the flameproof level. The complete method is described on p. 130 of the March, '51, issue of TEXTILE WORLD.

COTTON FIBERS. Cotton fibers came in for their usual lion's share of research. A lot of attention was given the influence of fiber structure on properties.

It was reported, for example, that fiber luster of cotton varies with structure and shape of the fiber, with the more lustrous fibers generally having greater strength. In mercerizing, luster is increased as the percent of stretch is increased.

What makes a cotton fiber strong or weak was explored by Textile Research Institute, Princeton, N. J. Two weak spots were found: (1) the points along the length of the fiber where the fiber reverses, and (2) points between these reversals where the fiber is weakened by structural faults such as kinks, splits, etc.

Chemical modification of cotton

for specific end uses continued during 1951; and the program, several years old now, goes on into '52. Projects underway include rot resistance, heat resistance, water repellence, and increase of absorbency.

SYNTHETICS. Properties and uses of the newer synthetic fibers received considerable publicity in 1951. Three new fibers were added to TEXTILE WORLD's Synthetic Fiber Chart in September.

Du Pont described Dacron fiber properties [TW, July '51, p. 120] rather fully and discussed its use for suitings [TW, June '51, p. 112]. Qualities said to make suitings Dacron's "most natural" use are appearance (color, drape, and tailoring qualities), resistance to wrinkling, stability, launderability, and economy.

American Viscose Corp. described problems encountered when dyeing Acrilan was shifted from laboratory quantities to mill quantities. For acid dyeing, time-and-temperature increase deepens the dye shade and aids penetration. A pH of 1.4 to 1.2 is recommended. Details of processing are given on p. 126 of the August issue of TEXTILE WORLD.

Other outstanding research accomplishments of 1951 are described in other sections of this Review and Forecast feature. Particularly noteworthy are the Marhen and Dan River processes described briefly in the section on dyeing, bleaching, and finishing cotton and synthetics.

As we go into '52, it looks certain that this year's research will be geared to the increasing horizons of fiber utilization. Mill physical and chemical researchers must work out satisfactory techniques for coping with problems in manufacturing and finishing never before encountered.

DYEING, BLEACHING, AND FINISHING
(COTTON AND SYNTHETICS)

TEXTILE FINISHING
Has New Methods and Materials

- **Molten-metal and hot-oil processes give versatility**
- **Dan River Mills stabilizes viscose fabrics**
- **Marhen process measures oxidation and reduction**

By C. NORRIS RABOLD, Consulting Editor, TEXTILE WORLD

EVERY YEAR, and the year 1951 has been no exception, marks increased technical advances in the wet-processing field of the textile industry.

MOLTEN-METAL PROCESS. In the dye-application field, the molten-metal process for the rapid fixation of vat colors has proved a successful way to dye colors on all types of fabrics. Whether they be cotton, viscose, or mixtures of the two, levelness can be obtained on both light and heavy goods.

The method is particularly good for dyers who must process a variety of shades with a relatively small vardage per shade, since it is possible to change from one dye combination to another rapidly and economically. It has advantages over batch operation because of the greater uniformity of shade.

HOT-OIL PROCESS. Another method for the rapid fixation of vat, sulfur, and other types of dyes, announced last year, is the hot-oil method. In this process, the cloth, after being impregnated with the dye and necessary chemicals, is passed through an oil bath. The oil bath is heated to an elevated temperature so that consequent rapid development and penetration of the dye into the fiber take place.

The method was developed by S. H. Williams; and a modified Williams unit, on which it is possible to obtain the necessary higher temperatures than on the unit now generally in use, has also been developed. Again, increased uniformity of shade and a rapid change from one shade to another are possible. Both the molten-metal and hot-oil processes further add to the already well-known and established ways of dyeing.

NEW SYNTHETIC FIBERS. The newer synthetic fibers, particularly in blends, still cause the dyer a considerable amount of trouble but, here again, the chemist has further evaluated the dye field and provided the processor with selected dyes of the best affinity and adaptability for a specific fiber. This service has not been an easy task, since the dyes must lend themselves to specific application methods and must at the same time possess the proper fastness consistent with end use.

Supplementing the work of the dye chemist has been the research carried out to develop techniques for applying dyes to fibers that are not too receptive. The organic chemist has developed many new swelling agents and also improved ways of preparing dye baths containing cuprous copper for linking dyes onto the dynel fiber.

WET-PROCESSING AGENTS. In the detergent and finishing field, interest is increasing in the use of non-ionic scouring, wetting, and softening agents. Many of these newer synthetic products combine the advantageous properties of both the anionic and the cationic materials and, being compatible with both, are proving a useful tool in general finishing. The non-ionics are relatively new, but their number is increasing.

It is of interest that the chemistry of some of these materials is based on ethylene oxide, and some of the basic syntheses were brought back from Germany by American teams of investigators.

DAN RIVER PROCESS. The chemical modification of fibers has always

been of much interest to the research chemist. Recently, Dan River Mills announced a chemical treatment for viscose, said to perfectly stabilize fabrics made from this fiber, impart good crush resistance, and at the same time have no chlorine retention.

The chemical engineer is a very important individual in the wet-processing field. More and more precision controls are definitely necessary for some of the chemical reactions in order to be carried out satisfactorily.

MARHEN PROCESS. Recently, the Marhen process for controlled vat dyes was announced. Here, electronic controls have been put to work to measure oxidation-reduction potentials and to reduce excess raw materials going into the dyebath.

The instrument measures the reduction potential of the dye bath, which in turn can be translated into specific quantities of reducing chemicals. Relationship between specific dyes and strength of the reducing bath indicates that many dyes are sensitive to over-reduction, especially when run at high temperatures.

Eventually, it should be possible to know exactly the optimum quantity of reducing agent for every vat color and exactly maintain the proper concentration in the dyebath or impregnation.

NEW METHODS COMING. New fibers, new finishes, and new end uses for fibers and fabrics—as well as changing procedures in washing and dry cleaning by the customer—require new and improved tests, methods, and equipment. Proper measurement and evaluation of both the physical and chemical characteristics of a finished fabric are necessary in order to maintain and improve standards of quality.

Thus, new tests and improved tests to meet changing conditions are imperative. Associations, companies, and individuals concerned are busy revising tests and devising new apparatus and methods to keep abreast of the rapidly changing textile industry.

WOOLEN-YARN PREPARATION

WOOLEN Mills Turn to Synthetics

- **Consumer acceptance and price lead mills to synthetics**
- **Blends and 100% synthetics are the pattern**
- **Many improvements limited to refinements**

By GUSTAV ZELLNIK, Consulting Editor, TEXTILE WORLD

AFTER AN UNEASY and difficult year in 1951, woolen spinning mills are hoping for a more profitable year in 1952.

During 1951, the wool branch of the industry began to go through a so-called "recession," which did not end as 1951 ended. With heavy inventory, the retailers tried to move their merchandise on hand; and mills got little business. Even large woolen mills shut down periodically and operated only when they obtained government orders or when they had accumulated enough civilian orders to operate one shift or work on a half-week schedule.

At the beginning of 1951, the fluctuation of world wool prices led knitters and garment manufacturers to order their fabric needs from hand to mouth, afraid to buy yarns and fabrics at high prices or in large quantities. Only mills with government contracts were busy to full capacity.

Toward the end of 1951, world market prices were more or less stabilized; only comparatively small ups and downs changed the daily quotations of wool. So we can assume that the year 1952 will bring, besides government orders, a normal demand for yarns and fabrics.

WOOL BLENDS. Many woolen mills will not manufacture only 100% woolen yarns and fabrics; they will also use blends of wool and synthetic fibers and 100% synthetic fibers. The variety of synthetics is becoming greater every year, and many woolen mills will have to be equipped to handle all kinds of fibers. More and more the average mill man has to study and experiment with the new fibers coming on the market and get acquainted with the blending, carding, and spinning problems they bring.

At the moment, mills working on blends of wool with synthetic fibers or running 100% staple-synthetic fibers have the best prospects of being busy.

The cloak-and-suit business is going more and more to the use of blends of wool and synthetics, partly from the consideration of lower prices and partly from the desire to promote something that has the same or similar wearing qualities as 100% wool but also has a new merchandising angle for the consumer.

Blends of wool with mohair and older synthetic fibers are recognized in certain government and civilian fabrics. Chinese cashmere, because of the world political situation, is gradually disappearing from the American market. Even Chinese cashmere processed in Japan, which has come to the U. S. labeled "cashmere-cardings," is at present not permitted to enter this country. The government's position is that the dehairing process done in Japan is not sufficient an operation to change the Iron-Curtain origin of the cashmere.

On the other hand, the government permits the import of cashmere yarns or fabrics made from Chinese cashmere coming from the same source but manufactured in England or other friendly countries. The consequence is that the part of our industry that uses unprocessed Chinese cashmere is nearly out of business. Whether 1952 will be different, nobody knows.

SYNTHETIC FIBERS. The synthetic

fibers already used on the woolen spinning system are Vicara, dynel, Dacron, Acrilan, Orlon, and, of course, a large volume of rayon and acetate. Where the trend will lead with man-made fibers, nobody can predict. Some mill men and merchandisers state that wool will gradually price itself from the market; others claim that wool, as a natural fiber, never can be substituted. It is probable that natural wool will always have its place in the textile industry as long as sheep are raised.

The year 1951 did not bring revolutionary developments in the field of woolen equipment. Davis & Furber introduced an 84-in.-wide card similar to their 72-in. and 80-in. cards. Blending machines, spinning frames, and mules were refined somewhat.

The engineers of a large carpet mill developed an evenness device attachable to woolen cards. According to the information received so far, the device will reduce weight variation of different roving ends almost to the point of elimination.

More instruments and time recorders will be used in mills to register breakdowns and stand-stills on machines in order to find the causes of troubles more speedily and thereby increase the production and efficiency of the equipment.

The movement toward the South throughout by wool manufacturers is more and more noticeable. Large mills that last year denied their intention of leaving New England are now on their way South.

Of course, a new plant in any location will beneficially influence manufacturing costs of yarns and fabrics because a new plant can be laid out more efficiently for the flow of production. Moving, alone, will not decrease unit costs; but a few well-engineered plants, with modern production machinery and methods and operated by expert management, will favorably influence the whole woolen branch of the industry by making it more cost conscious.

WORSTED-YARN PREPARATION

Trial and Error Is Out For WORSTED MILLS

- Evenness testers biggest boon in generations
- Twist is critical question in worsted long drafting
- Auto-leveler promises important cost cutting

By FRANÇOIS E. CLEYN, Consulting Editor, TEXTILE WORLD

DIFFERENT TYPES of evenness testers were introduced in 1951. Worsted mills have been very much interested in these developments and are now in a position to test the effect of various new machines on the quality of their products.

Now, almost every mill has a somewhat different method of preparing yarn for spinning. It is very likely that tests for these various methods will guide the way to better quality in some cases and lower cost in others and make it possible for mills to select the best method of spinning yarn for the end use of the yarn. Even yarn is an advantage only if it saves money in subsequent operations or if it makes the product in which it is to be used more valuable.

In the course of 1951, pin drafters and Ambler Superdraft have been the most debated developments in the worsted-spinning field. In using pin drafters, mills operating on the Bradford system still have to use a Bradford reducing or roving frame to insert twist in the sliver. Under the best of circumstances, it is a very crude method. The big question on which further machinery development depends to a great extent is this:

Can long draft, as developed by Ambler, be obtained with a sliver without twist?

If the answer is "yes," any machine between the pin drafter and the spinning frame becomes unnecessary. The logical solution in this case would be to go directly from the gill to the spinning frame.

If the answer is "no," machines that take an open sliver from the pin drafter and insert twist in the sliver, with good fiber control permitting, will no doubt be developed.

TESTERS CHECK SAVINGS. It is interesting to note that more difficult business conditions have made it necessary for machinery manufacturers to prove savings over a much shorter period. The more accurate and scientific methods of testing also enable the spinner to make sure that all the advantages claimed for a new machine are real and will mean a saving to his particular organization.

The Auto-leveler is an interesting 1951 development. For the first time, we have a machine that can correct the flaws of the comb in one operation instead of the gradual correction by a series of doublings. If this machine could be successfully introduced in the combing industry, standards for sliver evenness could be set up. Under these conditions, the task of the spinner would be much easier because he would start with a level sliver. We could finally discard the practice of having to predicate the drawing layout on the worst tops, a heretofore necessary procedure.

This practice has been a very wasteful method; but never knowing what flaws would crop up in a given lot of tops, the spinner had to assume the worst in order to be on the safe side in his calculations.

Quick and accurate testing of evenness after each operation is the biggest development the spinning industry has seen for generations. This development is bound to open new horizons and develop a variety of new machines. Trial and error is definitely a thing of the past.

DYEING, BLEACHING, AND FINISHING
(WOOL)

Wool-and-Synthetics Blends Spark WOOL FINISHING

- 1952 to be a year of evaluating fibers and blends
- Wool finishers need bright green, blue, purple dyes
- Military researchers will answer several finishing questions

BLENDS OF VARIOUS synthetic fibers with wool was the big news in the woolen and worsted branches of the industry in 1951. Dyers and finishers are just beginning to have problems with these fabrics. It's almost certain that the use of blends will increase in 1952– and so will wet-processing problems.

This year the activity, particularly in blends of wool with acrylic and polyester fibers, will be largely experimental. Mills must evaluate the fibers and blends both in the laboratory and in end-use applications.

In the blends produced so far, fastness of dyed fabrics to perspiration, crocking, pressing, and wet dry-cleaning is not always as good as it should be. Wool finishers must get a better grasp of the physical and dyeing-and-finishing characteristics of the various synthetic fibers before they will be able to handle these fibers as confidently and satisfactorily as they now handle wool.

Waste from synthetic-and-wool blends presents a hazard in manufacturing operations. The same hazard applies to reused stocks in wastes that are used in certain woolen operations. Since several of these synthetics, when mixed with wool, cannot be piece-dyed, speck-dyed, or carbonized, a small amount of them finding their way inadvertently into all-wool fabrics creates almost insurmountable problems.

Research and development sections of the Armed Services are carrying on extensive programs on a practical scale to determine the relative merits of various wool blends with all of the synthetic fibers. Several combinations have already been adopted, and more are likely to follow. Mills will profit greatly from the experience of these military fabrics.

DYEING. New and improved mechanical equipment for continuous piece- and stock-dyeing continue to make impressive progress. The application of vat dyes and the leuco esters of vat dyes to wool will doubtless find increasing application, especially for light shades where fastness to light is a primary consideration.

There is still a real need for bright green, bright blue, and bright purple dyestuffs for wool that will have reasonably good light fastness in light and medium shades.

FINISHING. Synthetic detergents will become more and more firmly entrenched as replacements for soap. In many instances, mills have gone to the use of detergents because of the high prices of soap and the wide price fluctuation.

Continuous cloth scouring because of its lower costs, higher production, and greater uniformity remains a very definite trend in the over-all wool-finishing field.

Various proofings– such as shrink proofing, water repellency and moth-proofing, particularly the first two– will be given increased impetus as a result of their increasingly successful application to certain selected military fabrics. Consumer demand may increase for sportswear items that can be "tubbed."

ENGINEERING

Today's ENGINEERING Is Geared for Tomorrow

- Layouts are flexible
- Simplicity is the byword in construction
- Improved machinery is a must

By JAMES H. KENNEDY, Southern Editor, TEXTILE WORLD

FLEXIBILITY IS THE keynote of textile engineering today– flexibility in plant layout, construction, and machinery. Modern mills don't want to be left out in the cold as new fibers and new processing systems come along; so their engineers are planning operations to keep up with the accelerated

obsolescence of buildings and equipment as the industry goes through another renaissance.

LAYOUT. The single-story, square plant with U-shaped flow is by far the most significant trend in mill layout. With this system, only one platform is needed for both receiving and shipping. Square buildings also require less wall length per sq. ft. of floor space. Plant services— toilets, conditioning apparatus, machine shop, offices, etc.— can be located in the center of the U. Materials handling is minimized because there is no backtracking of goods in process.

The U-shaped flow is also in favor because possible expansion can be carried out in three directions without disturbing existing machinery.

CONSTRUCTION MATERIALS. Much larger bays, with longitudinal steel trusses and bar joists, are being planned. Bays of 10x25 ft. and even 12x30 ft. are now becoming obsolete. The trend in modern bays is to have them as large as 32x64 ft.

Floors are being laid right on the ground for increased rigidity, less maintenance, and smoother machine operation. Concrete floors with a hard close-grained surface are being used increasingly, although some engineers still prefer hard Northern maple.

The trend is away from masonry walls to precast concrete or gypsum, with an insulating material such as foam glass between double layers of wall material. Double walls help to solve the distinctively textile problems of humidity and condensation. Cork is being used as a roof insulant because of its resistance to crushing. Steel columns are placed in the walls to carry the load and to allow expansion by simply knocking down the wall slabs and continuing outward as far as is necessary.

CONDITIONING. Some engineers predict that air will some day be piped in conduit systems instead of in ducts. But there are still problems in muffling the noise of escaping air in such systems. These problems will have to be solved before bulky ducts can be eliminated.

Unless the manufacturing process requires exact control, mills find it difficulty to justify complete air conditioning on the basis of comfort alone. Most evaporative-cooling installations do have a provision for refrigeration, however.

Spinning rooms are being completely air conditioned, and evaporative cooling is being installed in weave rooms. Other departments usually have air-changing systems.

High-pressure compressors are replacing older models in filling air requirements.

CEILINGS. False ceilings, 12 ft. high, are coming into use more and more. Lighting is more uniform, and there is less area to condition. Nothing combustible is put above the false ceiling; so only one set of sprinklers is required.

LIGHTING. Windowless construction in today's mills makes lighting conditions more uniform and at a higher level than ever before. On spinning and weaving, 45 to 55 foot-candles is becoming the standard light level. Other departments have 25 to 30 foot-candles. Newer mills are installing rows of lights perpendicular to rows of machinery for increased uniformity of light at the working level.

POWER. Unless a plant has an enormous demand for low-pressure steam, engineers recommend purchasing power instead of making it.

MACHINERY. The trend in machinery is toward more instrumentation, less handling, more labor-saving devices, and operations that are more automatic.

The spinning frame of 1960, for instance, may not have a spindle. The conventional drafting system will probably be used, but the method of winding onto the package may be entirely different.

More is being learned about air currents in carding, and developments along that line can be expected, but not in the near future.

WASHINGTON OUTLOOK

MOBILIZATION POLICY Is the Key to 1952

- **Government expects to use 5% of rayon, 10% of cotton, and 35 to 40% of wool goods produced in '52**
- **Mobilizers will cut textile-machine production 20%**

By DON LOOMIS, McGraw-Hill Washington Bureau

WASHINGTON WILL CONTINUE to hang over the textile industry's head during 1952. Government action— or lack of it— will be the key to the industry's prosperity— or lack of it.

As a "basic" industry, textiles, with some exceptions, won't get the special boost from mobilization that is being given other basic industries such as steel, aluminum, chemicals, etc. On the other hand, the industry's outlook will be colored by the government decisions that affect the whole economy.

The arms buildup is a key factor in sustaining industrial activity, employment, full payrolls. Any speedup or slowdown of this huge spending program will have an effect on textiles.

Wage and price controls have an immediate impact on textile wages and prices.

Materials controls can shrink markets— the hold-down on auto production, for instance. On the other hand, controls can be used to give a boost to the market— as when the controllers drop restrictions on auto-tire production and spur low-end manufacturing.

Industrial-expansion programs can

be used, as in the case of synthetic fibers, to alter existing competitive relationships between fibers and companies.

GOVERNMENT ORDERS. Government orders for textiles— or the lack of them— can push the market up or down. The urge to stockpile scarce materials against an emergency also has a tremendous impact.

Over all, government economists predict that the outlook for wool and cotton textiles this year is for about the same production as during calendar 1951. Synthetic-fiber output will keep climbing.

The total military procurement for clothing and equipage during the year ending June 30 will total about $2-billion, about three-fourths of this program being handled by The Quartermaster Corps of the Army.

But The Quartermaster Corps has been mum as to its forward-buying plans, partly because of the wool situation created when the military stepped in with a big procurement-and-stockpile program just about the time when wool stocks became too small to meet normal demand.

However, government buying for the next 6 mo. is not expected to be much more of a factor than it was during the last half of 1951. The big purchases for initial issue to the expanding Armed Services is over. Unless the size of the military establishment goes up again, procurement will be mainly for replacement.

Except for wool goods— where military buying is taking 35 to 40% of production— the government procurement programs have been relatively small, compared to total textile production. Not more than 10% of cotton goods are taken by the military, and probably less than 5% of the rayon.

If business picks up during the first half of 1952, government economists figure spot shortages may develop in chemicals for dyestuffs and for textile finishing generally.

STOCKPILING. Other government programs are also well under way.

The Department of Defense wool reserve, calling for 100-million lb. of wool in the form of textile items, is under way to the extent of contracts for more than three-fourths of the total. The balance of the orders will be placed by June.

Object: To have the blankets, underwear, sweaters, and the like on hand to meet any sudden increase in demand and to avoid the sudden skyrocketing of wool prices that occurred during the winter of 1950-51. Another factor in this situation is the reduction in the weight of Army serge from 18 oz. to 16 oz., and, more particularly, the use of 15% nylon in woolen uniforms "where appropriate or necessary."

The duck-and-webbing pool has been established for the Department of Defense in The Quartermaster Corps. Object: To maintain at all times a single pool of duck and webbing to be drawn upon as needed by all branches of the military. The pool got underway with this year's funds and will be administered hereafter on a revolving fund basis.

Total procurement for this pool for the first 6 mo. of this year (Jan.-June 1952) will amount to about $71- million.

One other special military procurement plan has gotten under way— the so-called "mobilization reserve program." This program calls for the building of a stockpile of key clothing and equipage items to be kept for use at the outset of a war.

The items in this reserve will be those for which industrial capacity will be inadequate to meet immediate demands of an all-out mobilization. A small start on this program was begun with 1951 funds, but a sizable part of the total "mobilization reserve" is being created with about $500-million from this year's funds.

MACHINERY. As to textile machinery, the key fact is the conversion of machinery manufacturers to the production of non-textile equipment. Reasons for this government-directed program is the inability of the machine-tool manufacturers to speed output to the rate required to meet mobilization demands.

By mid-1952, the mobilizers predict that "more than 20%" of the textile-equipment capacity will be turning out either machine tools or military end-items.

Machinery manufacturers say that if they are required to put as much as 25% of their capacity to these non-textile items, they may be forced to turn over their entire capacity to such production.

The allotments of scarce copper, aluminum, and steel to textile-machinery makers reflect the down-hold of their normal output. Here is the allotment pattern as of Jan. 1:

	3rd quarter 1951 (tons)	4th quarter 1951 (tons)	1st quarter 1952 (tons)
Carbon steel	35,247	28,500	22,404
Alloy steel	1,607	1,300	1,351
Stainless steel	1,119	1,500	882
Copper	847	562	712
Aluminum	1,010	1,060	895

PERSONNEL ISSUES

8 Things You Can Do To HOLD WORKERS in '52

- Manpower drains may set in this year
- Here's a 7-point program to hold operators
- And a great big Point 8 for your supervisors

By **MACON P. MILLER,** Personnel Director, Fieldcrest Mills

WE ARE FACED in 1952 with two situations that will force us to get our "personnel houses" in order:

1. No matter what the outcome of the warfare in Korea, the U. S. will maintain a large military force.

2. Industrial production directly relating to defense needs will be stepped up.

Both of these situations have already drained manpower away from the textile industry. Our loss has not yet been felt too strongly because of the lower level of production in the textile industry. But when production is stepped up, as is expected, we are going to be hard put to maintain an adequate and stable work force. The time for taking action is now.

There are several steps that can be taken to retain rank-and-file employees.

1. Counsel workers who are tempted to run off to some supposedly more lucrative industry to make a "quick killing." This counseling does not mean that we should give direct advice to these employees to stay put. The employee's personal interest is paramount, and direct defense production is dependent on some mobility of labor into short-labor areas. But we can serve as good listeners and thus assist the employee in arriving, by his own reasoning, at a sound personal decision.

2. Consider the advisability of hiring more women employees and older employees. Contrary to the assumed superiority of the male, women have the aptitudes to perform well in a wide range of production jobs. The primary limitation is physical. Age appears to have little effect on aptitudes for manipulative work; so older workers are a fruitful source of manpower for certain jobs.

3. Make sure that selection, placement, and training procedures are adequate. This advice has been labored to the point where it's axiomatic—but still good.

4. Provide for some mobility within your plant so that the employee, after his original placement, will be able to move to a niche that may be more suitable for him. This course will require, in some cases, a loosening of limitations placed on transfers. And it will also involve a re-examination of promotion practices and policies, a clear delineation of lines of promotion, and training of employees for promotion.

5. Develop an easily accessible inventory of employee aptitudes, skills, and job experience so that qualified current employees will be immediately considered for openings that develop. The purpose of such a roster is to make maximum use of your current labor force.

6. Look into those factors that may be causing poor morale, high turnover, low production, or high absenteeism in your mill. These factors can be uncovered by morale or attitude surveys among current employees. The surveys can give you a sound basis for action that will help you keep present employees contented (and on the payroll) and will induce new applicants to come on the job and stay on it.

7. Make sure that the lines of communication are open so that employees can develop some feeling of "belonging" to the organization and will have some outlet for expressing complaints other than through absenteeism, quitting, or low production.

8. The manpower problem involves not only rank-and-file workers but staff and supervisory employees as well. These employees, too, may feel there is greener grass somewhere else.

One solution is to spot the men the organization wants to retain, let them know what their future prospects are in the organization, and launch a program of "executive development" so that they will be ready to take a step upward when the chance occurs.

This phase of the personnel program is no easy matter. It involves an examination of the organizational chart and the capabilities and experience of management personnel, a forecast of developments within the organization, and the establishment of tailor-made programs for developing management personnel.

Not all of these suggested measures may be possible or practical in a particular company. But the manpower squeeze will not cure itself; and textile companies, in their own interest, will have to do something with the bag other than hold it.

OVERSEAS PICTURE

FOREIGN MILLS
Step Up Their Production

- **The following factors affected, one way or another, textile-manufacturing output in other lands in 1951:**

Good:	Improved plant facilities	Bad:	Uncertain raw-material prices
	Unsatisfied consumer demand		International disagreements
	ECA financial aid		Rearmament demands
	U. S. technical assistance		Consumer price resistance

By RICHARD C. SCOTT, New York Editor, TEXTILE WORLD

IN GENERAL, textile manufacturing around the world picked up a lot of steam in 1951. The curve should continue upward into 1952, and even sharply upward in those countries getting into primary manufacturing for the first time; for the demand for fabrics of all types in un-industrialized countries especially is enormous.

Countries with better-established textile industries in 1951 suffered more from ever-recurring variable factors in

(Continued on page 234)

ROVING-FRAME INSPECTION FORM

Inspect each part shown for conditions listed.
Place a check mark over conditions needing attention.

STEEL ROLLS:
Eccentric, loose joints, necks worn, roll stands worn.

TOP ROLLS:
Condition, hollow, channeled, rough, lack cushion.

TRAVERSE:
Maximum length, back lash, dwell at change.

SETTINGS:
Correct for staple length. Variations between top and bottom rolls.

SPEEDS:
Front roll, spindles, main shaft.

FRAME TENSIONS:
Tension gear, starting point cone belt, rack free.

LUBRICATION:
Roll, stand, and bearing wear.

FLYERS:
Slot pins, pressers, tubes, balance.

BUILDERS:
Worn jaws or dog, spring tension.

TWIN GEARS:
Driving bevel. Wear, backlash, mesh.

BOBBINS:
Variation in barrel size. Broken pin slots.

COMPOUNDS:
Worn teeth, loose, backlash.

GEARS:
Check all gears and studs for wear and settings.

HEAD END:
Draft train, spindle train, twist train.

SWING ARM:
Gears and bearings.

SHEAVES:
Pulleys, chains, weights.

CONES:
Gears, position of bottom cone, condition of belt.

CLEANLINESS:
Rolls, clearers, gears, clearers, shafts, studs, rails.

OPERATION:
Creeling, piecings, doffing. Cleaning methods.

HUMIDITY:
Check relative humidity and controls. Range 53 to 57% r.h.

Remarks: .....

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Try This System To Improve Your ROVING

▶ Here's a sure way to detect faults, locate causes, and correct conditions responsible for inferior roving.

▶ A systematic analysis of all processing factors — including organization, mechanical condition, settings, cleaning schedules, and operation — often indicates ways of improving the quality of roving.

▶ The same principles described for roving frames can be used successfully on any machine in the mill to improve operation and product.

By E. H. HELLIWELL, New England Editor, TEXTILE WORLD

A FIELD REPRESENTATIVE of a textile-engineering firm uses the following system to detect and correct the causes of inferior-quality roving. There are many good features of this method that may be applied by any carding overseer to improve his roving. Even with the present roving being considered satisfactory, there are always opportunities for further improvement. A thorough analysis of all factors pertaining to roving processing will often show up major or minor faults and indicate ways of correcting them.

First, a check is made on the mill's standard organization on roving frames for the type of roving being made. Are the grade, staple length, and character of the cotton being used suitable for the yarn numbers being spun? Compare standard speeds, drafts, twists, and roll settings to make sure they are consistent with recognized good practices. If standards are approved, make any changes necessary to have all conditions conform to these standards.

Check Back Stock

Check the staple length, evenness, unit weight, and cleanliness of the

(*Continued on page 159*)

TRAINING-PROCEDURE MANUAL

Cutting Off a Roll

1. Start overhead fan. (We have a fan over the top stop motion of each machine). Let the fan run for approximately 1 min.
2. With the machine running, blow lint off the bottom tension ring. Blow from the inside of the machine outward.
3. Stop the machine. Standing in one position, blow lint off half the number of striping boxes and carriers and also blow in between the boxes and carriers. Blow from the inside of the machine outward. Walk to the opposite side of the machine and from one position blow the lint off the other boxes and carriers. Now blow each individual box and carrier. Check for lumps and twisted ends and remove them.
4. Start the machine. Blow the cylinder by directing the nozzle upward to allow the air to come up between the needles and sinkers. Then blow the air down between the needles and sinkers.
5. While the machine is running, pour light needle oil on the needles and sinkers for one revolution. Then blow up and

How To Train

▶ Here's some basic philosophy on teaching and a step-by-step procedure for training outerwear knitters —by a man who started his mill and did the job in the last 18 mo.

By LAWRENCE LEVY
Lawrence Knitting Mills, Inc.

TEACHING A PERSON how to operate a knitting machine or how to sew a garment involves basic principles that are the same in any teaching procedure. If the pupil hasn't learned, the teacher hasn't taught. Just showing a person how to knit or how to sew correctly doesn't necessarily mean that the pupil can perform the operation satisfactorily. The proof of a successful teaching lesson is whether the pupil has learned the object of the lesson.

The principles involved in instructing a person how to operate a knitting machine are basic principles that are the same in any teaching procedure.

Talk the Language of the Pupil

In instructing learners to become knitters, we will assume that we are dealing with adults of average intelligence. This assumption implies more than speaking the native tongue of the learner. We must always keep in mind that we are dealing with people who have never operated a knitting machine before and, in fact, may never have seen such a machine in action.

We therefore cannot confuse the learner with the technical details of how a knitting machine operates, with the technical terms ascribed to the various parts, or with the different stitch formations resulting from the interaction of these parts. The instructor must present the knitting machine as a simple mechanism capable of being mastered. This procedure will tend to instill confidence immediately in the learner and he (or it may be a she) will be in a receptive mood to receive further instruction.

The instructor must use simple words and simple sentence structure in the expression of his thoughts. Although complicated sentences and high-sounding words may sound impressive, it is most likely that the learner will not understand them. For the teacher to be effective, he must use language that the pupil will understand. In this way, both instructor and learner will be on equal speech levels, and this condition will lead to a free and unhampered interchange of thought.

It is important for the instructor to speak slowly and distinctly and to allow his thoughts to sink into the learner's mind. Each phase of the instruction must be clearly understood by the learner before the instructor should even attempt to move on to the next topic.

Patience and Understanding Needed

Besides knowing the subject well, the teacher must have or acquire a great deal of patience and understanding. He must remember that he is trying to convey skills that he can perform very easily to a learner who has trouble in performing these same skills.

It is soon apparent that what is easy for the instructor is difficult at first for the learner. At this point the instructor may think the learner dumb or clumsy, but such is not always the case. There are other factors that affect the learning capacity of the learner, factors not readily discernible at first to the instructor.

There are many people who become very nervous when taking a test. In

down through the needles and sinkers for one revolution.

6. While the machine is running, prepare a new piece ticket.

7. Stop the machine and cut off the roll between the dirt mark and oil ring. Wipe dirt and lint off the takeup parts, and blow the lint out from under the machine. Check the pattern and watch out for oil streaks.

8. While the machine is still standing, wipe off the base as clean as possible without disturbing the pattern wheels.

9. Check for twisted ends and start the machine.

10. Blow off the gates, motor, and drive parts with the machine in motion. Wipe the outside of the legs.

11. Spray the needles and sinkers with light needle oil for one revolution by aiming the spray at the latches of the needles. Also, spray the butts of the needles for one revolution.

12. Place the old ticket in the roll and put the new ticket on the hook attached to the front gate.

OUTERWEAR KNITTERS

such a condition, these people cannot think clearly and cannot perform physical acts without a great deal of effort.

When the instructor asks the learner to tie a knot, he is, in a sense, asking the learner to take a test. Naturally, the learner wants to show that he can follow instructions and is very anxious to accomplish the act not only correctly but quickly. Because the learner wants to tie the knot quickly, he usually looks clumsy in performing this simple act.

The instructor must impress upon the learner that speed is not essential at this time. The learner must be told that his speed will increase as he becomes more skilled in each operation.

The instructor must understand that it is very important not to embarrass the learner at any time in any way. If the learner has an inferiority complex, any slight aggressive tone of the instructor's voice may be enough to cause the learner to withdraw into his shell. In such a condition, the learner is not receptive to any learning situation.

Learners Learn by Doing

You probably have heard the phrase, "One picture is worth a thousand words." To go a step further, the actual doing of a skill by the learner is worth a thousand demonstrations by the instructor. No matter how many times the instructor demonstrates a skill, the learner will never be able to perform the skill properly unless the learner actually performs the operation. Of course, the learner may memorize the steps in performing the skill in his mind, but that is quite different from performing it.

After a skill such as cutting off a roll is demonstrated, the instructor should then allow the learner to perform the same operation. The instructor is then able to help the learner acquire this skill correctly and quickly by pointing out any mistakes the learner may make.

It is very easy for the instructor to think the learner stupid when, after demonstrating a skill, the learner does not perform the act correctly. The instructor must remember that demonstrations are only teaching aids and that the learner can only acquire skills by performing the skills himself. Perfection of a skill is only acquired through practice, and the learner can only "learn by doing."

Keep Motivation in Mind

The main reason a person wants to acquire knitting skills is to be able to get a job and thereby make money. Naturally, the learner wants to improve his skills as quickly as possible in order to meet the job requirements with the hope of making more money if he shows outstanding ability.

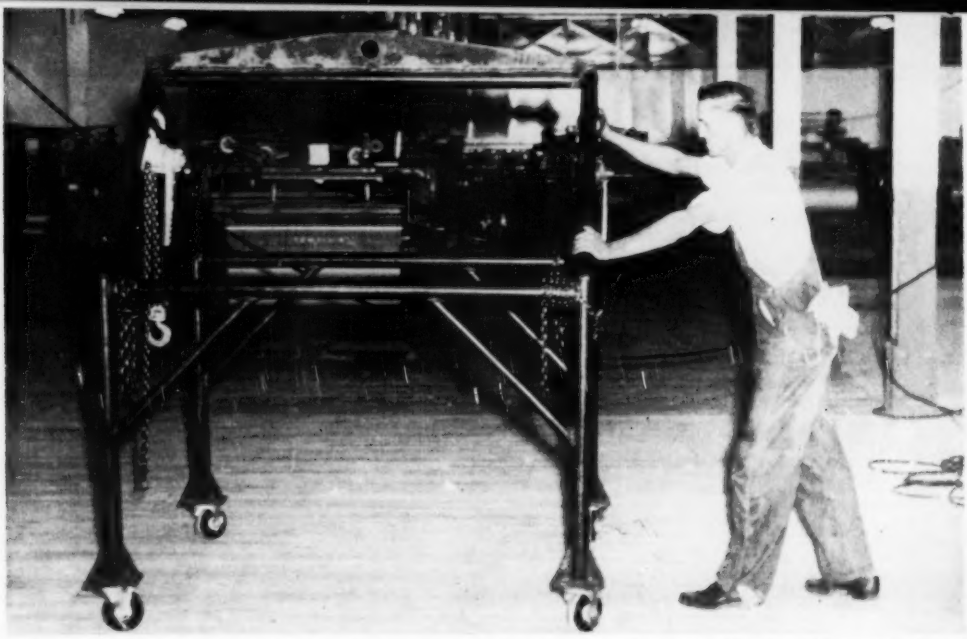
There will be times when the instructor will want the learner to perform certain operations according to his instructions. However, the learner may prefer to do the operation his way although not quite achieving the desired results.

To illustrate, let us say that the instructor wants the learner to double-tie cones; but instead of doing this, the learner prefers to wait until the cone is nearly bare of yarn before stopping the machine and replacing the cone with a full one.

It is obvious that it would be poor practice to offer the learner more money to accept the instructor's method. It would be foolish to threaten the learner with the loss of his job. It is part of the instructor's job to make the learner trust and have confidence in him. The feeling that the instructor wants to help the learner must always prevail, and an air of friendship on the part of both is necessary to accomplish the teaching objectives.

Yet what can be done to motivate the learner to double-tie cones? At this point the instructor must become a diplomat. In a friendly tone, he should point out that there will be

(Continued on page 274)



8:00 A.M. The specially built carriage is pushed across floor of the new weave room. The frame of 2-in. iron pipe mounted on swivel casters was made in the mill machine shop.

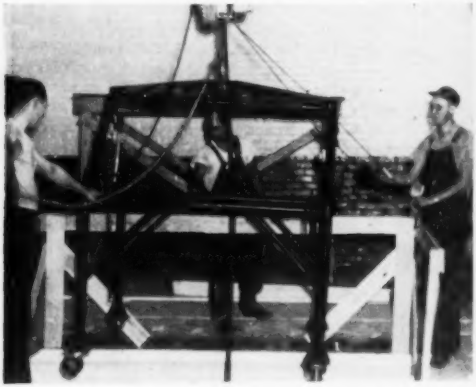
How to MOVE A LOOM in 14 Minutes

By W. C. WESTBROOK, Consulting Editor, TEXTILE WORLD

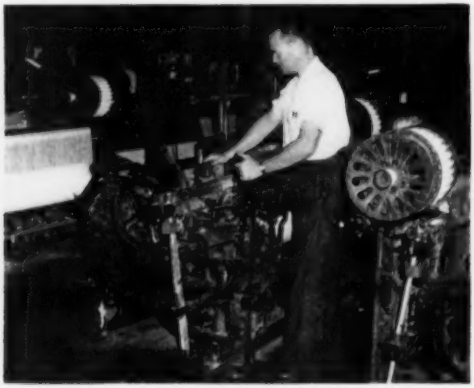
WHEN THE TRION DIV. MILL of Riegel Textile Corp., expanded recently, 276 Draper E-model looms had to be moved from a room on the ground floor to a newly completed second-floor room directly overhead. Because of close quarters, a fork truck or other mechanical means of transporting the looms up an outside ramp or through the main mill and up an elevator was considered impractical.

It was decided to leave a 7x9-ft. opening in the floor of the new room and lift the looms up through this opening. The only special tools required for the job were a portable carriage made in the mill's machine shop at a cost of less than $30.00, an electric hoist that was borrowed from the slasher department, and two small chain hoists borrowed from the machine shop.

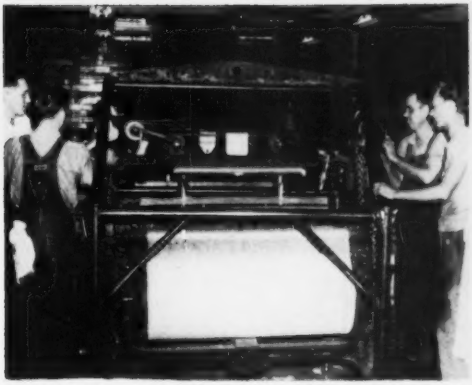
The looms were moved in eight working days with an average of 34½ looms moved per day, or one loom every 14 min. There was not a single accident involving either personnel or machinery during this operation; and, being confined to the two rooms, it did not in any way interfere with the normal operation of other rooms or departments.



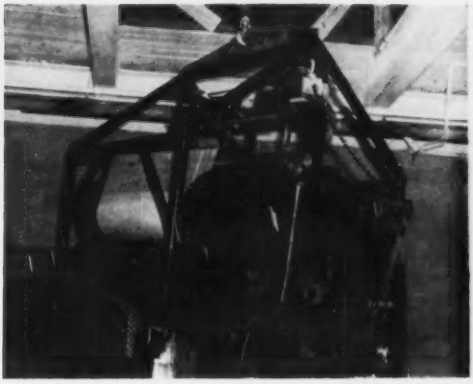
8:01 A.M. The empty carriage is lowered through a hole in the floor. A rope is used to guide the carriage and hold it in line with the opening in the floor.



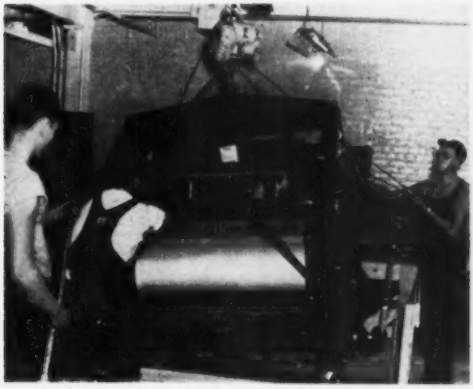
8:03 A.M. The loom is stopped and filling removed from the battery. Wiring is disconnected, and conduit is removed from the switch box by plant electricians.



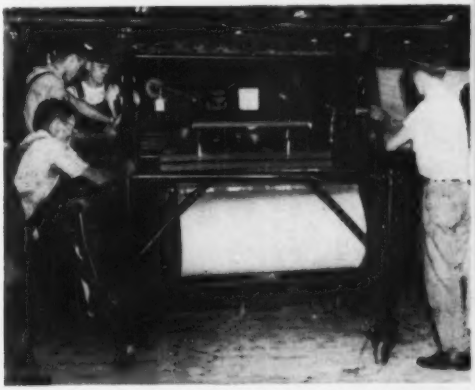
8:05 A.M. The carriage straddles the loom, and a chain is looped around the horn of each loom side. Small chain hoists lift the loom from the floor, where it has been held in place by felt pads.



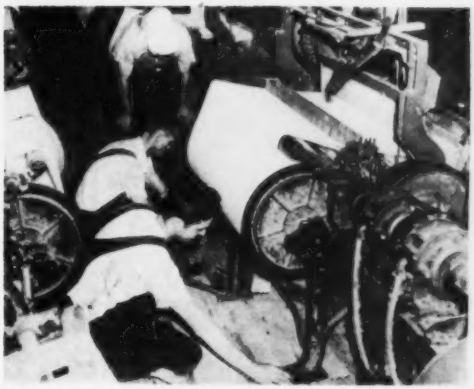
8:08 A.M. With loom attached, the carriage is pushed beneath the opening and begins its ascent to second floor. Work benches, beam racks, and other equipment were later carried up by the same method.



8:10 A.M. The loom has arrived at the top of the lift and is being pulled to solid flooring. The electric hoist and monorail have a rated capacity of 1 ton.



8:12 A.M. The carriage is pushed into position, and the loom is lowered to the floor. The carriage then begins the return journey as shown in Picture 1.



8:14 A.M. A hydraulic automobile jack placed in the center of the girt lifts the loom feet for insertion of cement-coated felt pads. The same procedure is used for both the front and back feet.

LOOM IS STARTED in its new location by Noah Rider, overhauler in charge of the loom-moving operations. Looms were not started for at least 8 hr. after moving to permit the cement on the felt pads to harden.

How PIN DRAFTERS Are Being Used

▶ Hailed as one of the most important advances in decades, the pin drafter is proving itself in several worsted-mill applications. Here are the details on today's costs.

By MICHAEL J. KOROSKYS
Assistant Professor, Wool Department,
Lowell Textile Institute

WORK LOADS →

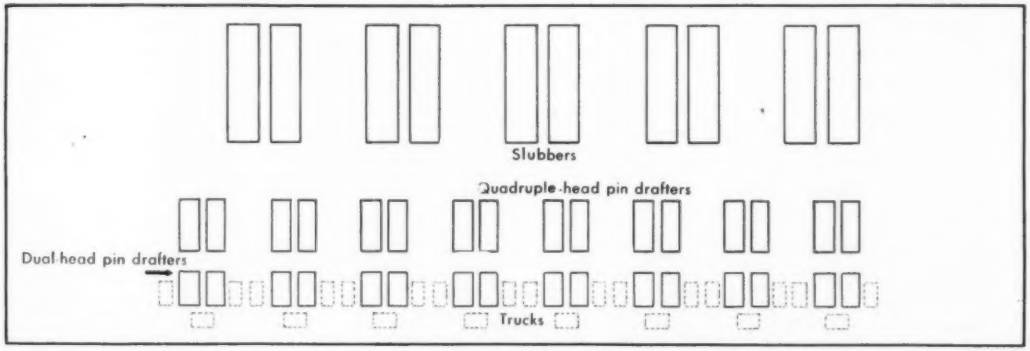
HERE'S HOW THREE MILLS broke down their work assignments. Information about operations after pin drafting is given so you can get a better idea of the entire picture.

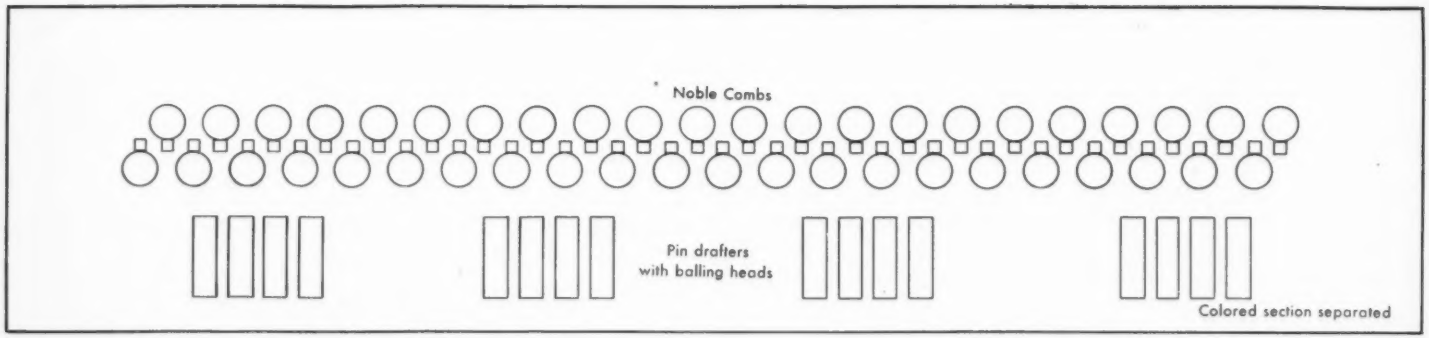
For the pin drafters, each operator usually has a combination of duals and quads. An operator with a small set matches up and weighs the cans.

	MILL A	MILL B	MILL C
PIN DRAFTERS	3 operators to 10 or 12 deliveries. From combed sliver or top. 1 section hand to 1 set, including reducers and rovers.	1 operator to 8 deliveries. From top. 2 section hands to 6 sets, including reducers and rovers.	1 operator to 12 deliveries. From top. 1 section hand and 1 helper to 36 machines.
REDUCERS	1 operator to 2 reducers. Does own creeling and doffing. 10x5 ring 1,110 rpm. $1.38/hr., ⅔ bonus	1 operator to 2 reducers. Does own creeling and doffing. 8x4 ring 1,110 rpm. $1.28/hr., ⅓ bonus	1 operator to two 68-sp. reducers. 2 creelers per 10 machines. 2 doffers per 5 machines. 8x4 flyer 1,110 rpm. $1.066/hr., day pay
SPINNING FRAMES	4 sides per operator for 20s and under. 5 sides per operator for over 20s. Does own doffing. 1 girl as bobbin setter. Yarn girl puts up roving for 16 frames. $1.095 ring; $1.24 cap	4 sides per operator, all counts. $1.20	3 sides per operator for under 21s. 4 sides per operator for 21s and over. $1.196

FLOOR PLANS →

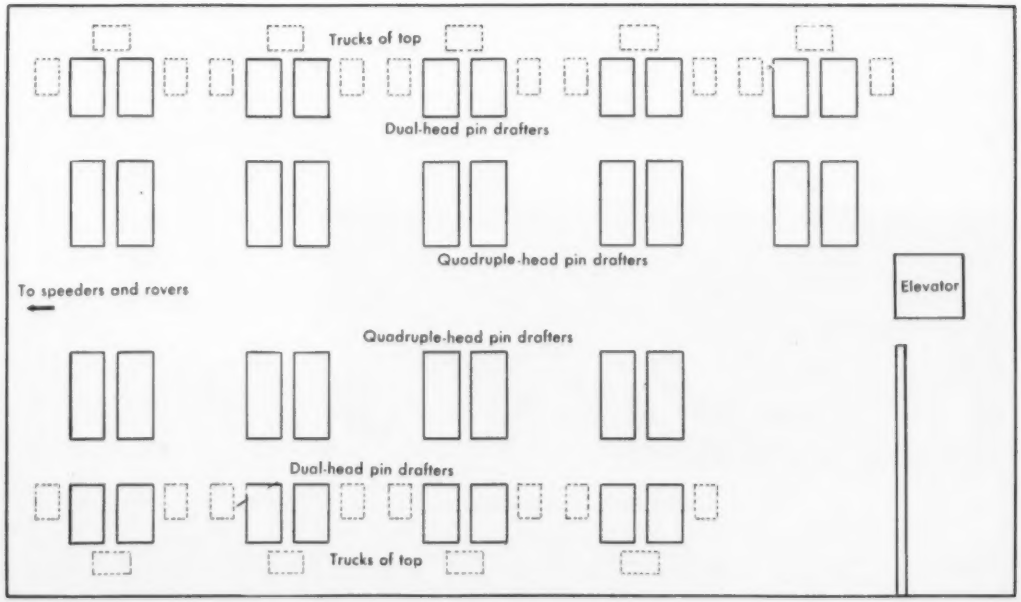
IN THIS FRENCH-DRAWING INSTALLATION, balled top arrives in trucks (shown in dotted outline) at the dual-head pin drafters. After processing in this row has been completed, the cans of stock are matched for weight and are then processed in the second row of pin drafters—quadruple-head units. Cans from the "quads" are pushed across the aisle to the slubbers or finishers.





IN A COMBING ROOM, a row of pin drafters is placed behind a row of Noble combs. Balling heads are used on these pin drafters. The extra floor space between sections of pin drafters was made possible when the first and second finishers were taken out. The pin drafters didn't take up so much room. The colored section is preferably located apart from the main combing section.

IN AN ENGLISH-DRAWING SET-UP, trucks of top are brought from the elevator to the "duals." The duals feed the quads, and cans from the quads are trucked to the speeders and rovers in the next room. Path of the stock is from the two sides of the room toward the center, then laterally to the next process.



Turn to the next page and see how four leading worsted mills using pin drafters laid out their production details and figured their costs per pound.

LAYOUTS

1/24s — French

Drawing

Operation	Ends up	Wt. per end (grains)	Wt. fed	Draft gear	Draft Fig.	Draft Act.	Wt. del. Fig.	Wt. del. Act.
Pin drafter								
22 pin	8	115	920	39	7.7	7.2	119	128
22 pin	5	128	640	39	7.7	6.7	83	96
29 pin	5	96	480	37	8.1	8.0	59	60
Slubber	1	60	60	26	5.5	5.7	10.9	10.5
Finisher	2	10.5	21	29	4.9	4.9	4.3	4.3

Spinning

Rim	Center pulley	Pinion	Twist gear	Head twist gear	Draft	Counts	Tpi.	Strength
17	11	43	48	56	8.2	23.80	16.5	61.2

1/35s — French

Drawing

Operation	Ends up	Wt. per end (grains)	Wt. fed	Draft gear	Draft Fig.	Draft Act.	Wt. del. Fig.	Wt. del. Act.
Pin drafter								
22 pin	6	130	780	34	8.8	9.4	88.6	82.8
22 pin	5	82.5	412.5	39	7.7	7.0	53.6	58.6
29 pin	5	59	295	37	8.1	7.4	36.4	40.0
Slubber	1	40	40	25	5.7	5.9	7.0	6.8
Finisher	2	6.8	13.6	29	4.9	5.0	2.8	2.7

Spinning

Rim	Center pulley	Pinion	Twist gear	Head twist gear	Draft gear	Draft Fig.	Draft Act.	Counts	Turns	Strength
17	11	47	52	56	47	7.7	7.6	34.88	11.2	36

1/32s—English

Drawing

Operation	Ends up	Wt. per end (grains)	Wt. fed	Draft gear	Draft Fig.	Draft Act.	Wt. del. Fig.	Wt. del. Act.
Pin drafter								
22 pin	5	120	600	34	8.8	8.5	68	71
29 pin	5	71	355	35	8.6	8.1	41	44
Cone reducer	1	1,760	1,760	31	6.2	5.9	284	300
Cone reducer	2	300	600	41	5.9	6.0	102	100

Spinning

Head twist gear	Draft gear	Draft	Counts	Turns	Strength
33	38	6.4	31.20	12.8	40.25

1/43s — English

Drawing

Operation	Ends up	Wt. per end (grains)	Wt. fed	Draft gear	Draft Fig.	Draft Act.	Wt. del. Fig.	Wt. del. Act.
Pin drafter								
22 pin	8	96	768	44	6.8	6.1	113	126
22 pin	4	126	504	40	7.5	7.6	67	66
29 pin	4	66	264	40	7.5	7.3	35.2	36
Cone reducer (68-sp.)	1	1,440	1,440	33	5.8	6.1	248	235
Cone speeder (80-sp.)	2	235	470	40	6.0	5.9	78	80

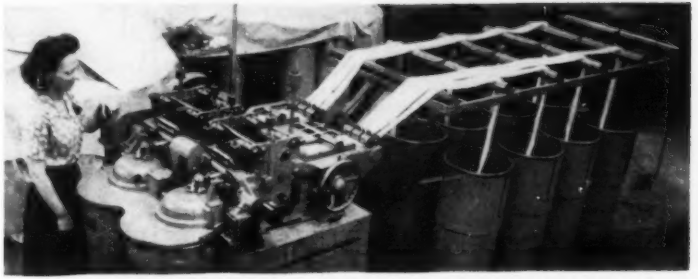
Spinning

Draft gear	Counts	Turns	Strength
53	42.70	15.5	23.5

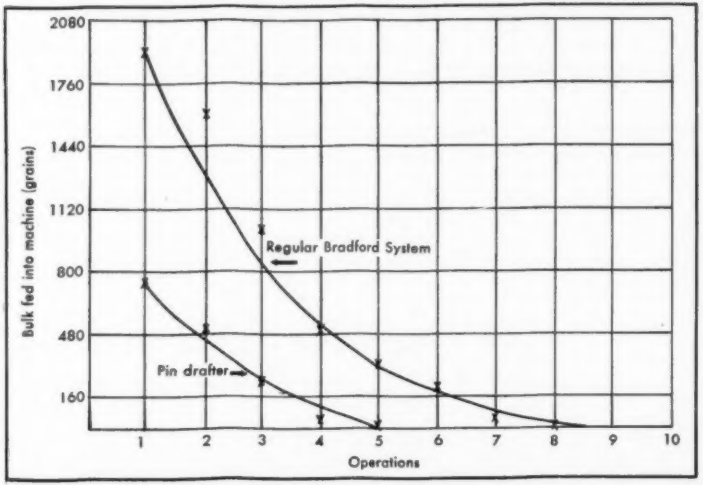
PRODUCTION *

	1/24s	1/32s	1/35s	1/43s
1st operation	141.94	92.58	120.34	118.50
2nd operation	98.74	54.78	63.64	77.76
3rd operation	74.06	—	45.52	40.74

*All figures in pounds per hour per dual pin drafter at 100% efficiency.



POWER-DRIVEN CREEL of pin drafter pulls stock from cans placed directly under the creel.



SHORT-CUT METHOD FEEDS LESS BULK ORIGINALLY but reduces size at about the same rate as the conventional method. This improvement is made possible by better fiber control on the pin drafter.

ACTUAL COSTS PER POUND

Operation	1/24s French Conventional	1/24s French Pin drafter	1/35s French Conventional	1/35s French Pin drafter
1st finisher	$0.009	—	$0.009	—
2nd finisher	0.009	—	0.009	—
Mixer	0.005	—	0.005	—
Comb ball winder	0.006	—	0.006	—
1st drawing	0.005	—	0.005	—
3rd drawing	0.005	—	0.005	—
Reducer	0.005	—	0.005	—
Top carriers	—	0.001	—	0.001
Pin drafting				
1st operation	—	0.004	—	0.005
2nd operation	—	0.006	—	0.009
3rd operation	—	0.007	—	0.012
Slubber	0.010	0.010	0.010	0.010
Rover	0.014	—	0.015	—
Finisher	0.016	0.016	0.015	0.015
Total	0.084	0.044	0.084	0.052
Operations	10	5	10	5

Operation	1/32s English Conventional	1/32s English Pin drafter	1/43s English Conventional	1/43s English Pin drafter
1st finisher	$0.009	—	$0.009	—
2nd finisher	0.009	—	0.009	—
2-sp. gill box	0.009	—	0.009	—
1st drawing — 4 sp.	0.009	—	0.009	—
Weigh box — 6 sp.	0.009	—	0.009	—
Finisher — 10 sp.	0.009	—	0.008	—
Top carriers	—	0.001	—	0.001
Pin drafters				
1st operation	—	0.006	—	0.005
2nd operation	—	0.010	—	0.007
3rd operation	—	—	—	0.013
Cone reducer — 68 sp.	0.017	0.017	0.017	0.017
Speeder — 80 sp.	0.045	0.045	0.058	0.058
Misc.	0.004	0.004	0.004	0.004
Total	0.120	0.083	0.132	0.105
Operations	8	4	8	5

HOW COSTS WERE FIGURED

Elements per cycle (one truck load — 750 lb.)

Elements	Minutes per occurrence	Occurrences	Minutes/Cycle
Position truck	0.31	1.0	0.31
Creel dual ball	0.50	37.5	18.75
Doff dual (2 cans, 14 lb./can)	0.90	26.8	24.12
Weigh two cans	0.72	26.8	19.30
Match set	2.00	5.4	10.80
Creel quad (can)	0.50	53.60	26.80
Doff quad (4 cans, 18 lb./can)	1.80	10.40	18.72
Piece up	—	—	14.00
Clean laps	—	—	14.00
Total work min./cycle			146.80

Estimated Production (15% allow.)

4.69 hr./cycle x 60 min./hr. = 281.40 min./cycle

$$\frac{0.85 \times 480 \text{ min.} \times 750 \text{ lb./cycle}}{281.4 \text{ min./cycle}} = 1087.4 \text{ lb./8 hr./operator}$$

Machine Efficiency — Dual

$$\frac{125 \text{ gr./yd.} \times 9 \text{ yd./min.} \times 60 \text{ min.} \times 6 \text{ ends} \times 2 \text{ hds.}}{7{,}000 \text{ gr./lb.}} = 115.7 \text{ lb/hr.} - 100\% \text{ prod.}$$

$$\frac{80 \text{ lb./hr. (anticipated)}}{115.7 \text{ lb./hr.}} = 69.1\% \text{ efficiency required}$$

Machine Efficiency — Quad

$$\frac{84 \text{ gr./yd.} \times 9 \text{ yd./min.} \times 60 \text{ min.} \times 5 \text{ ends} \times 4 \text{ hds.}}{7{,}000 \text{ gr./lb.}} = 129.6 \text{ lb./hr.} - 100\%$$

$$\frac{80 \text{ lb./hr. (anticipated)}}{129.6 \text{ lb./hr. (100\%)}} = 61.7\% \text{ efficiency required.}$$

Cost Per Pound

$$\frac{\$1.30 \text{ rate/hr.}}{80 \text{ lb./hr. antic./quad} \times 2 \text{ quads}} = 0.008125 \text{ est. cost/lb.}$$

One mill decided to buy pin drafters after making this calculation —

Test run — Pin drafters

1st Operation — 79 lb. per hr. per machine @ 85% eff.
2nd Operation — 47 lb. per hr. per machine @ 85% eff.

Machines Required

$$\text{1st Operation} - \frac{175{,}000 \text{ lb.}}{79 \text{ lb./hr.}} = \frac{2{,}215 \text{ hr./wk.}}{80 \text{ hr. (2 shifts)}} = 27.7 \text{ machines required}$$

$$\text{2nd Operation} - \frac{175{,}000 \text{ lb.}}{47 \text{ lb./hr.}} = \frac{3{,}723 \text{ hr./wk.}}{47 \text{ lb./hr.}} = 46.5 \text{ machines required}$$

Total required, 74.2 machines

Cost of Equipment

74 machines @ $6,500 = $481,000

Savings

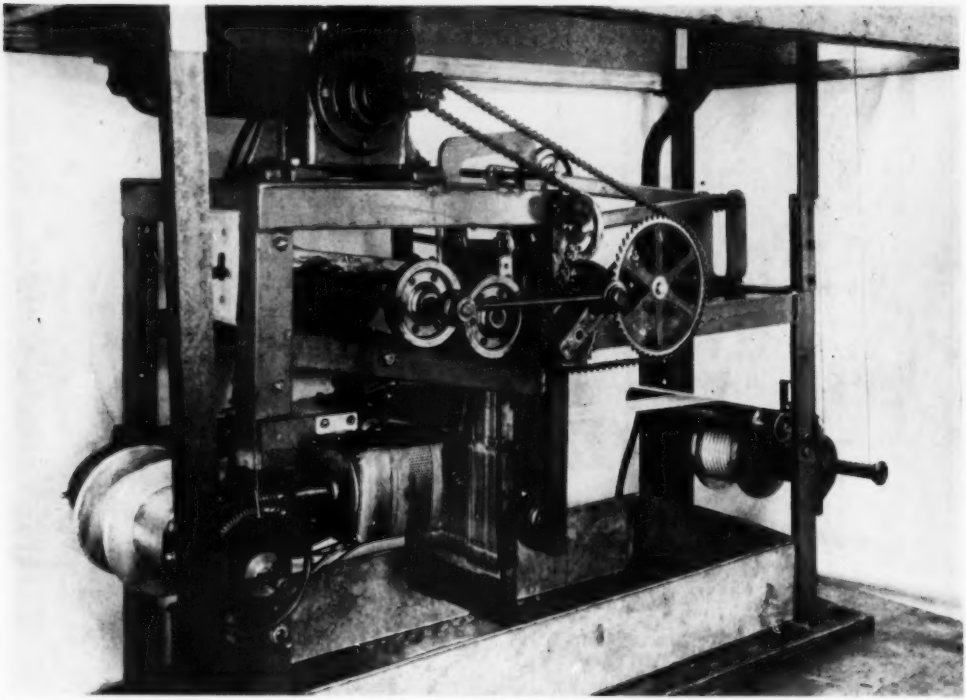
Avg. savings = $0.03/lb.

Time Required to Pay for Equipment

$$\frac{\$481{,}000}{\$0.03/\text{lb.}} = 16{,}000{,}000 \text{ lb. of production, approx.}$$

175,000 lb./wk. average = 87,500 lb. at 50% mill activity

$$\frac{16{,}000{,}000 \text{ lb. prod.}}{87{,}500 \text{ lb./wk.}} = 183 \text{ weeks production, approx.}$$



WARP-SHED TESTER puts the sized warp yarn through the same motions and abrasions as a regular loom except laying in filling. From right to left are the let-off spool, heddle sand reed, and the take-up spool. Shed is collected in the metal pan below the tester, weighed, and calculated as a percentage of total sized-yarn weight.

WARP-SHED TESTER
Evaluates Slasher Size

SRI developed laboratory slasher and "filling-less" loom motion to—

- **Measure warp shed during weaving**
- **Evaluate different slasher-size formulas**

In 5 yr. of testing, SRI reports that an average mill warp sheds 0.70 to 0.85 lb. per 100 lb. of yarn.

By EDWARD ABRAMS, Southern Research Institute

TO EVALUATE WARP SIZING in the laboratory, Southern Research Institute, under the sponsorship of Avondale Mills, developed the Shed Tester.

This tester is essentially a miniature loom without the filling motion. The main components include two harnesses containing 11-in. flat steel heddles, a reed, and an impact mechanism. The harness, reed, and impact mechanism are actuated by a chain-and-sprocket system powered by an electric motor. The impact action is designed to simulate the action of the reed as it beats in the filling yarn on a loom.

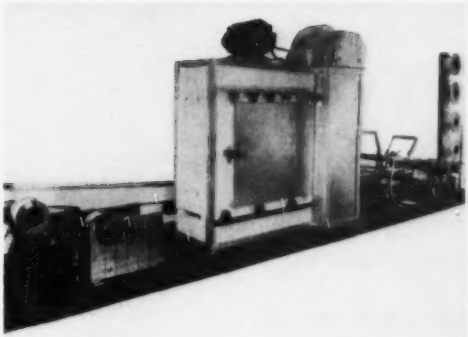
The sample warp yarn is wound on a metal spool, and the spool is mounted on a shaft at one end of the Shed Tester. Ends from the spool are drawn through heddles and a reed and are attached to a metal take-up roll at the other end of the tester.

A fractional horsepower electric motor turns the take-up spool at the rate of 3.6 in. per min., and the machine operates at a speed corresponding to a loom speed of 172 ppm.

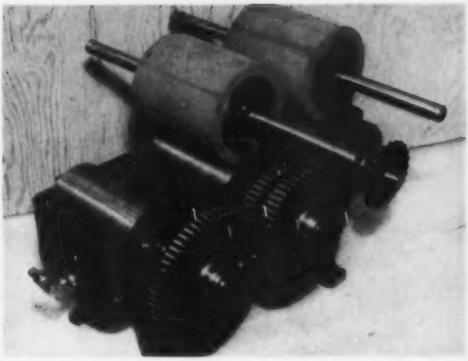
To maintain a constant tension on the warp, a small steel cable with a weight hanging on one end is fastened to the shaft carrying the let-off spool. The cable is wound up on the shaft as the yarn advances through the Shed Tester. With a warp of 168 ends, this arrangement gives a tension of 18 grams per end. Between the take-up roll and the impact bar is a set of drop wires for stop motion.

Shed Test

About 20 yd. of sized warp yarn are



THE SRI SLASHER uses a creel of four spools, extreme right, to mount a warp of 168 ends of 30s yarn 1,000 yd. long. It has a size box, an optional wet-lease unit, dry box, lease rods, take-up roll, and a variable-speed drive.



THE SLASHER SIZE BOX has an immersion roll and two pairs of squeeze rolls. Size capacity is 1,500 ml. Temperature is maintained by live steam introduced through a perforated copper tube, and steam delivery is controlled by a Bristol recording controller.

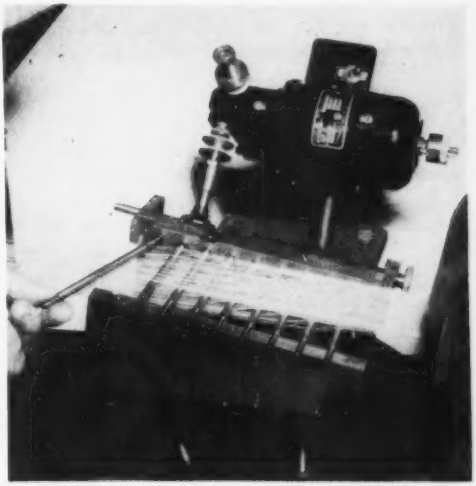
Table I
Shed-Tester Results on 30s Yarn

Size	Size Content of Yarn (%)	Total Shed (lb. per 100 lb. Yarn)
None	None	4.90
Standard starch formula	11.7	0.80
Cellulose derivative A	5.2	0.45
Cellulose derivative B	12.8	0.79

Table II
Shed-Tester Results -- Wet and Dry Lease

Size	Size Content of Yarn (%)	Total Shed (lb. per 100 lb. Yarn)	Wet Lease Used
Starch A	5.7	0.30	Yes
	5.6	0.62	No
Starch B	9.1	0.28	Yes
	9.6	0.98	No
Starch C	11.4	0.61	Yes
	11.7	1.54	No
Synthetic resin A	6.5	0.73	Yes
	6.5	2.57	No
Synthetic resin B	5.5	0.22	Yes
	5.5	*	No

* Could not be run on slasher because of excessive breaks at lease rods.



WET-LEASE UNIT is placed between the size box and the drying oven. The stainless-steel lease rods are driven by the motor in the direction of yarn travel. Devised for slashing yarns sized with synthetic resins, the wet-lease device also reduces shed one-half or more.

passed through the Shed Tester in each test during a period of about 4 hr. The fibers and size abraded from the yarn as a result of loom action drop in a pan at the bottom of the tester. This material is known as "shed." During operation, the Shed Tester is completely enclosed with a sheet-metal cover. The shed, carefully collected with a fine brush, is weighed; and the result is expressed as the percent of the weight of the total yarn tested.

The Shed Tester has been in use by this laboratory, in a room where temperature and humidity are controlled, for the last 5 yr. The reproducibility of results is good. For instance, duplicate runs of the same spool of sized yarn yielded the following amounts of shed per 100 lb. of yarn: Size Formula No. 1, 0.22 lb. and 0.20 lb.; Size Formula No. 2, 0.45 lb. and 0.46 lb.; Size Formula No. 3, 3.49 lb. and 3.37 lb.

As a guide, it may be stated that an average well-sized mill warp yields about 0.70 to 0.85 lb .of shed per 100 lb. of yarn. This average compares favorably with laboratory-sized yarn.

The Shed Tester, by itself, is a very useful instrument. However, for the same reason that it is impractical to use a mill loom as an evaluating instrument, it is also impractical to use a mill slasher as a warp-size evaluator. Therefore, while the Shed Tester was being developed, a laboratory-size slasher was built.

SRI Slasher

The SRI slasher is almost an exact copy of a standard mill slasher. It has a size box, a dry box, lease rods, and a take-up mechanism. The size box, of

(Continued on page 286)

1951 COTTON— How Good?

"Better than last year," say the experts.

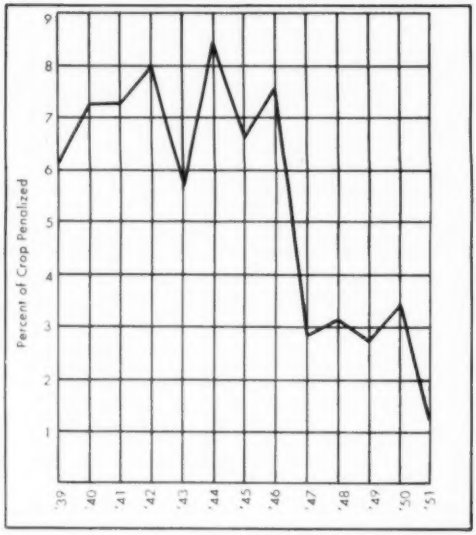
Here are some results of mill and laboratory tests on the new crop.*

*As reported at the 8th Annual Cotton Spinner-Breeder Conference held recently at Clemson, S. C.

Speaking for the ginners . . .

According to J. C. Oglesbee, Jr., Federal Cotton Ginning Specialist in Atlanta, the ginners used the same machinery this year as they did last year. So maybe some of the troubles blamed on ginning last year were really the fiber's fault, not the ginners.

Based on preliminary figures (about 85% of the crop), this year's cotton has set a record for the ginners. Only 1.2% has been penalized for rough preparation—the tangled, twisted, and knotted fibers usually associated with poor ginning. And this record was set in a bad year, from the ginner's standpoint. The harvesting season was unusually short, hence the gins were pressed for time at the height of the season when the crop had to be ginned practically all at once. Rapid harvesting, however, results in trashier cotton. So, based on this information, you can expect '51 cotton to be a little more trashy—because of rapid harvesting and mechanical picking—but relatively free of gin-caused tangles.



Six-Year Comparison Favors NEW CROP

By **JOHN M. COOK,** In Charge, Clemson Laboratory, Cotton Branch, Production & Marketing Admin., U. S. Dept. of Agriculture

▶ **Fiber strength and yarn appearance are better than ever, and yarn strength is up from last year in all localities. Mills can expect 1951 cotton to run better and look better.**

Basis of the Tests

Areas from which test lots are taken grew at least 10,000 bales in most cases. If the seed of any cotton is more than three years away from the breeder, that cotton is not

included in the study. Only the first pickings of all years are included in this study.

Each spinning-test lot represents the predominant grade and staple length received by the classing office from the particular area at the time the lot was selected. Samples from each lot are mixed for the spinning tests and most of the fiber tests. Bale samples are processed through pickers as a mill mix so that results represent the entire lot. Thus, results should approximate the average expected from the whole community represented by the spinning-test sample.

The Southeastern states include North Carolina, South Carolina, Georgia, and Alabama. The Central states are Tennessee, Mississippi, Missouri, Arkansas, and Louisiana.

Yarn Strength

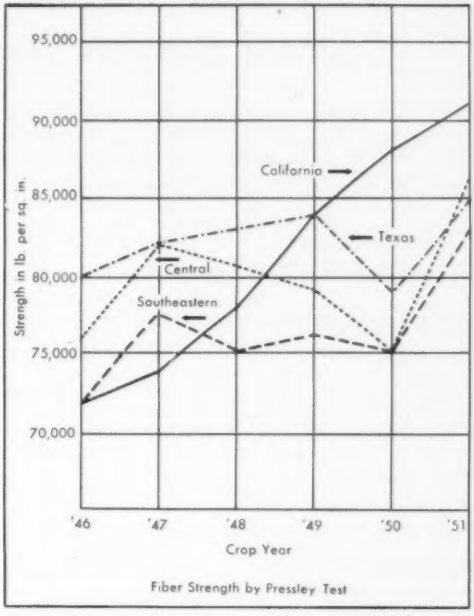
Based on carded singles yarn in yarn numbers ranging from 14s and 22s to 50s and 60s, the yarn strengths are from skein breaks. Combed yarns from the same cottons would probably break from 8 to 12% higher.

An index of 100 means that the yarn strengths are at the average level expected from cotton of that particular length. Stronger yarns show indexes above 100, and yarns weaker than they should have indexes below 100.

Yarn Appearance

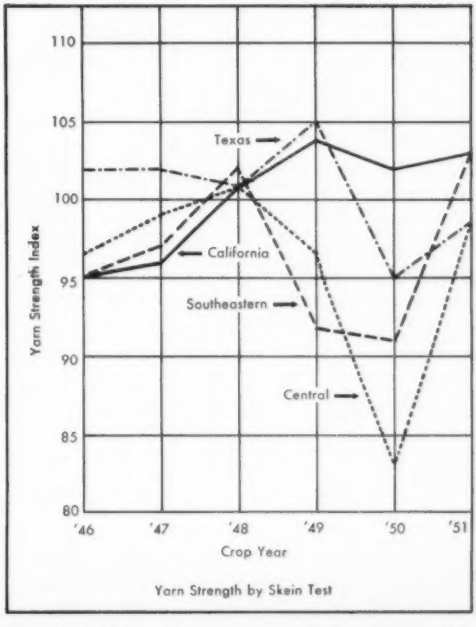
An index of 100 for yarn appearance equals the grade of CJ+. C is given 90; B, 110. The index changes 10 points for each half grade.

Fiber Strength Sets Record . . .



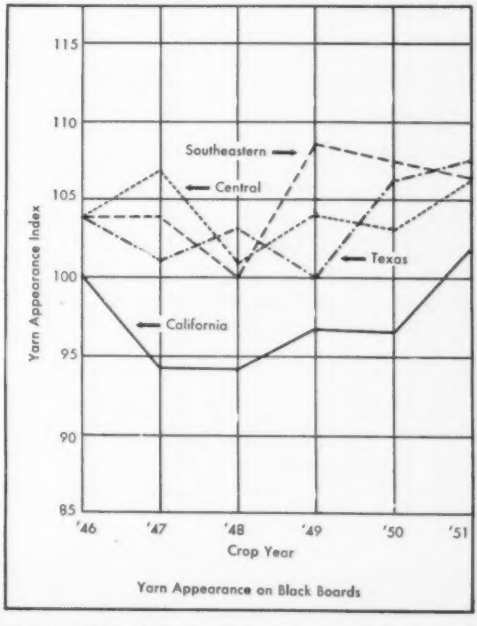
CALIFORNIA CROP had the best over-all strength fiberwise.

Yarn Strength Is Up . . .



ALL LOCALITIES showed a marked increase in yarn strength in 1951.

Yarn Appearance Is Good . . .



SOUTHEASTERN CROP is only yarn whose appearance is not better.

1951 COTTON—How Good?

MILL TESTS Show '51 Cotton Better Than '48

▶ Results of operations and tests in three mills are summarized here. This mill group didn't like the '49-'50 crop; so '48-'49 cotton, which was available on the same basis, was used until this year's crop came along.

By HARRY DEFORE
Director, Cotton Testing, Deering-Milliken Mills

What Deering-Milliken Concluded . . .

"The improvements noted are not great enough to warrant job-load changes or enhanced cloth premiums."

TW Comment—The '48-'49 cotton that Deering-Milliken was using last year was better than the '50 crop. If mills had to make changes to compensate for poor cotton in '50, the 1951 crop should permit them to wipe out these changes.

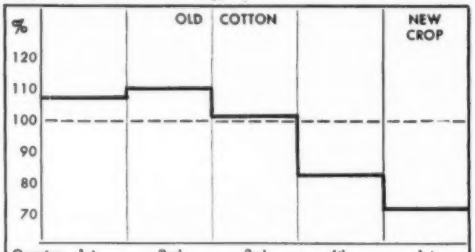
Refer to the companion article tracing cotton qualities for six years, and you'll see that '48-'49 was a good year—much better than '50 in most respects.

Explanation of Charts

In each case, '50-'51 mill performance was taken as the basis, with 100 as an index. During '50-'51, you must remember, the mill was using '48-'49 cotton. Also, the quarters and mill years don't start in January. '50-'51 mill performance, for instance, runs from July '50 to July '51. That's why there's data only from the first quarter of '51-'52 ready at this time.

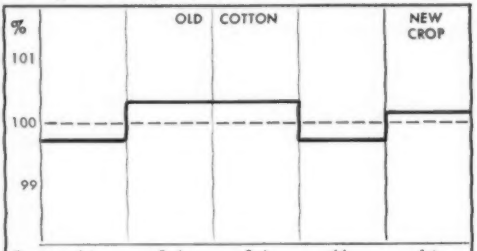
All cotton for both years was the same—Strict Low Middling Bright, 1⅛ in.

Neps are down 10½ %



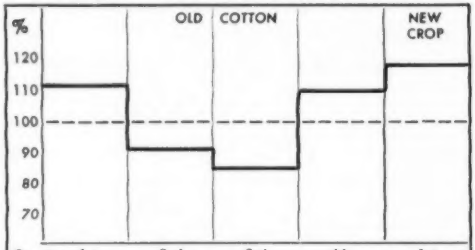
(Neps in 100 sq. in. of 55-gr. sliver spread on a 40-in. doffer)

Roving efficiency is about the same . . .



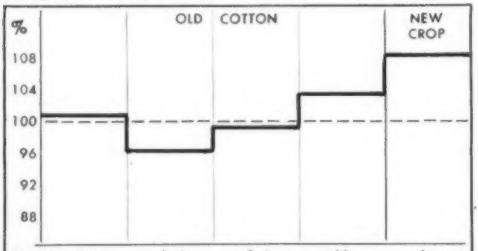
(Avg. of 2 rovings from each of two mills. Based on test time less maintenance and doffing time.)

And roving ends down didn't change much . . .



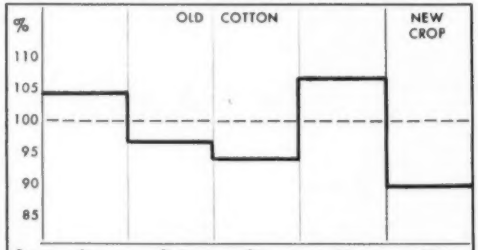
(Avg. of 2 rovings from each of two mills, measured in ends down per 100 spindle hours)

But yarn strength is up 8% . . .



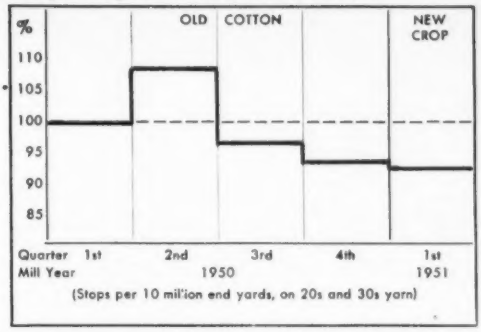
(Break factors of 2 yarns at each of two mills)

And there are 14% fewer spinning ends down.

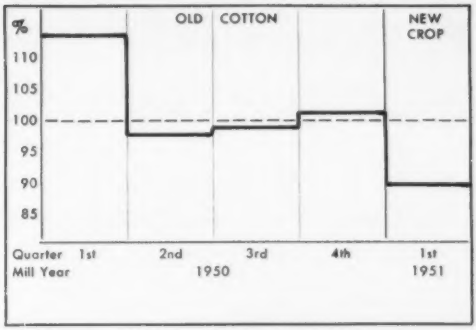


(Avg. of 2 yarn numbers at each of three mills, based on ends down per 1,000 spindle hours)

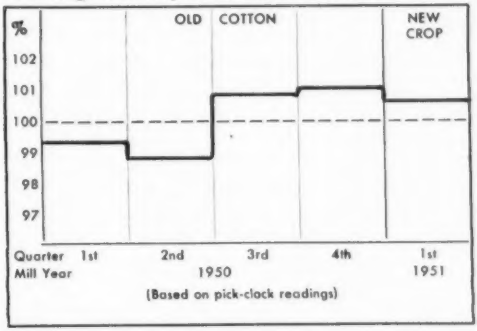
Warper stops continue to be fewer . . .



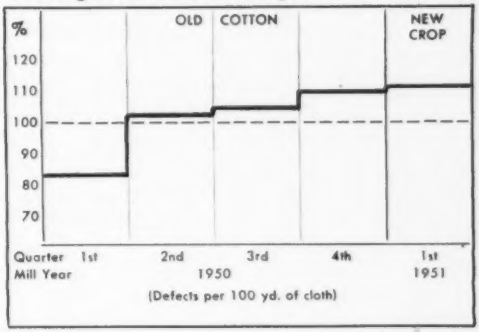
Spooler knockouts are reduced 10% . . .



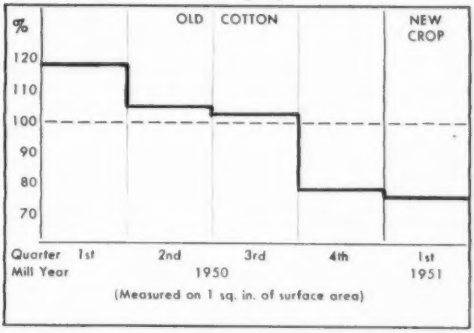
Weaving efficiency is not much different . . .



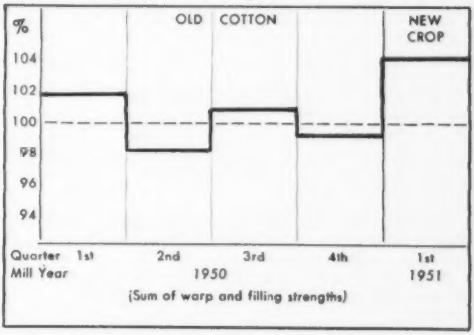
Weaving defects are unchanged . . .



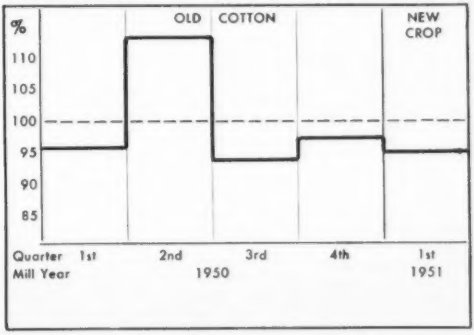
. . . As are nep counts in gray cloth



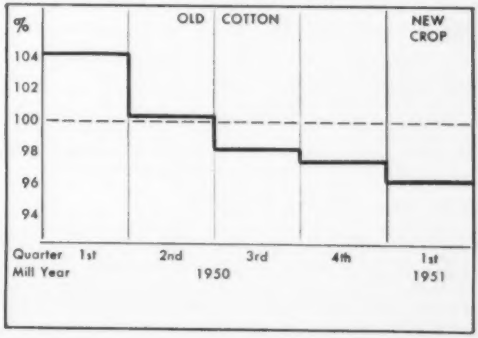
Cloth is roughly 3% stronger . . .



Seconds, shorts, remnants are about as before...



Total salable waste is down a little.



To Reduce NEPS— Work Your Cotton Less

- **Excessive beating should be avoided.**
- **Card lickerin and cylinder should approach same surface speed.**
- **Too much drafting is detrimental.**

By ELLIOTT B. GROVER
Head, Dept. of Mfg., School of Textiles, N. C. State College

NEPS IN COTTON are usually associated with immature fibers or with fine-fibered varieties. Neps can be controlled, however, by careful machine adjustments made with due consideration for the factors that affect neps. The ideas presented here summarize work on nep control at the School of Textiles, North Carolina State College. The work was sponsored by the U. S. Dept. of Agriculture and administered by the Southern Regional Research Laboratory.

Based on a paper delivered to the 8th Annual Cotton Spinner-Breeder conference at Clemson, S. C.

What Causes Neps?

The basic source of neps is fine or weak fibers, but the causes we can deal with have to do with processing machinery. Neps are formed as a result of any action that causes excessive friction or that allows rolling or folding over of the fibers. Neps can be formed at any process where there is a chance of tangling the fibers.

. . . Opening and Picking

Excessive beating and working cause neps.

The only excuse for most of the beating cotton receives in opening and picking machinery is to get foreign matter out of the cotton. Practically every operation that removes heavy waste materials causes neps. Experiments that eliminated all heavy cleaners—a process line that included blending feeders and a two-beater picker—showed better quality for neps than a conventional line.

The eventual answer here is better opening, for then better cleaning can be accomplished more easily. We hope that the newly developed SRRL Opener can help this problem.

In the opening, it seems to be a matter of keeping the beating at a minimum. For example, a beater at normal speeds fed at a rate of 1,400 lb. per hr. produces fewer neps than one fed 700 lb. per hr. Obviously, the greater bulk of cotton at the high rate of production offers itself protection from the beater. By the same token, a beater operated at lower speeds is less harsh in its action.

Furthermore, a beater fed by feed rolls to give fringe beating must be set with enough clearance to prevent damage to the fringe. Too close a setting results in excessive friction and manipulation; too wide a setting makes cleaning by this means somewhat less effective, but neppiness is helped. The balance rests with quality demands, both from neppiness and cleaning.

Perhaps an ideal opening-picking line would be arranged in a parallel manner. Gentle-action blending feeders would feed at a low rate to reduce beating action, with dependence on thorough opening for good cleaning. Low-volume production rates and a few effective cleaning elements would hold neps to a minimum, with maximum removal of trash. The trend is in this direction.

One other factor that influences neps is the control of air currents. Failure in vertical openers, for example, to have sufficient air flow causes too slow a passage of cotton through the machine; and the extra manipulation and friction result not only in neps but also in curling the cotton. On the other hand, neps may be increased by too high an air flow through Buckley-type openers and pickers. Neps that have been ejected by centrifugal force through grid bars may be drawn back by air into the stock passing through to the condenser.

(*Continued on page 270*)

What Is A Nep?

Most mill men don't have to be told what a nep is, but you may be interested in the formal definition as given by ASTM.

> "Small knot-like aggregates of tightly entangled cotton fibers, usually not larger than a common pinhead, that are difficult to separate from cotton and from which the individual fibers are generally difficult to remove."

Neps take dyes differently from normal fibers, partially because of the immature fibers usually present in the cluster and partially because neps are surface conditions that cause a different light reflection.

Neps can be buried in a coarse yarn, but in fine yarns the neps become surface defects—and therefore fabric imperfections. Neps show up in white goods as surface roughness.

Neps cause unevenness of drafting and uneven yarn. Opening and cleaning operations that are effective in cleaning are also effective in forming neps.

What Fiber Condition Tends to Make Neps?

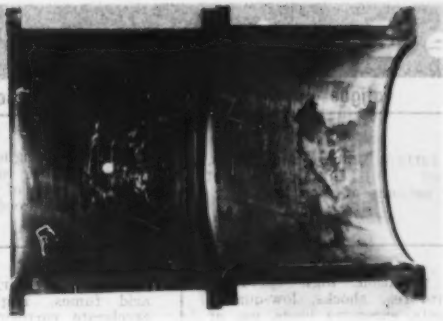
In cotton, neps are associated with immature fibers, which are flatter and more easily bent, distorted, and tangled. Thus, the first rule for avoiding neps is to start with cotton of high maturity.

Just as the very pliable immature fibers lend themselves to tangling to form neps, so do the fine-fibered varieties tend to nep more easily because they are less stiff. Mills generally use fine-fibered cottons (because of their strength, luster, and spinning ability) for fine combed yarns. Combing helps to remove neps.

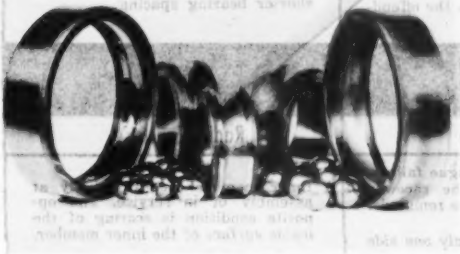
How About Synthetic Fibers?

The same problem that exists for cotton exists for the equivalent deniers in the synthetics. The average cotton fiber of 4.5 micrograms per inch has approximately the same fineness as 1.5-den. rayon or synthetic staple. Mill processing is quite similar. One-denier staple, comparable to a fine-fibered cotton, requires meticulous care to prevent neps. Three-denier or coarser staples can be roughly mistreated without trouble from neps.

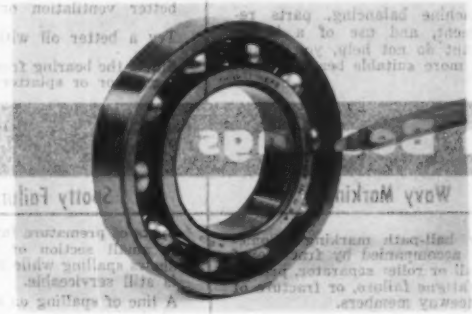
LINING SHELLOUT of a plain bearing is caused by poor bonding between bearing metal and backing surface. This condition is almost invariably caused by careless installation.



FATIGUE FAILURE of the bearing metal is caused by repeated stress. Here disintegration started at the oil hole and spread quickly to the rest of the surface.



ABRASIVE MATERIAL in the lubricant has worn the balls and raceways of the bearing on the right. Surfaces of normal bearing remain bright.



CRACKED MEMBER is caused by excessively tight fit. Here the inner member was broken by an oversized shaft and an over-enthusiastic assembly.

How to Diagnose BEARING FAILURES

▶ Here are some clues that you can use to find out why your bearings have failed. The cure is lots easier if you know the cause. And you can correct the trouble before failure if you recognize the symptoms.

By PHILIP O'KEEFE

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The main part of this story is told in the chart and pictures that follow. You'll want to keep these in a handy place. To go with the above, here's a good discussion of the two main types of bearing—plain and antifriction.

Plain Bearings

A plain journal bearing is cheap, compact, easy to replace in the field, tolerant of abuse, and easy to design and repair. Starting and running friction are higher than with corresponding rolling-contact bearings, however, and speed potentials are lower.

In theory, complete lubrication, in which the rubbing surfaces are completely separated by a fluid film, is possible in any lubricated bearing. Pressure-lubrication, gravity-feed, or oil-bath systems can be used to replenish the lubricant lost off the ends of the bearing. This type of lubrication gives the lowest coefficient of friction in a sleeve bearing and prevents wear. Although infinitely smooth bearing and journal surfaces would be required

Plain Sleeve

	Seizure	Scoring	
Symptoms	Regular score marks on both shaft and bearing. Local welding between shaft and bearing. Parts of bearing pulled out.	Galling or scoring of the bearing by foreign particles. Resembles seizure, but marks are irregular and may be on only one member (usually the harder one). You can see particles in the bearing.	Tiny sur followed larger se
Causes	Insufficient lubrication. Poor lubricants. Wrong bearing metal.	Foreign particles entering the bearing from dusty air or flying dirt. Unfiltered oil or grease may also carry particles.	Shaft vi temperatu lubricants the wrong
Cure	Try a bearing metal with higher anti-seizure qualities. This will mean a larger bearing of softer metal. For slight cases of seizure, use a better quality lubricant of the same viscosity.	Clean the grease fittings and shield the bearings. Inspect lubricants for dirt particles. Filter if necessary. Occasional particles make little difference with softer alloys, so changing to a metal with better embeddability may help.	If machi placement lubricant use a mo

Antifriction

	Hot Bearing	Fracture	W
Symptoms	Bearing runs consistently hot. Fatigue failure may result before normal life is reached.	Bearing breaks along a line following the raceway. Crack is not confined to the surface, as in normal fatigue, but goes completely through the member. Balls or rollers may be fractured too.	Wavy ba times acc the ball c ture fatig the racew
Causes	Too much grease chokes the bearing, impedes travel, and cuts off circulation.	Too much radial load or a defective bearing.	Misalignm or shaft c ride from and back
Cure	Less enthusiasm with the grease gun.	Check to see that the bearing is rated correctly. Look over the machine for hidden sources of additional forces. Use a larger bearing or a double-row unit.	Align all assembly. sive vibra place dam
	Brinelling	**False Brinelling**	
Symptoms	Indentations or pock-marks in raceways. Fractured balls and rollers. Constant vibration from indentations in raceways. Premature fatigue.	Long indentations, smooth at the edges, and more evenly sloped than in regular Brinelling. Constant vibration.	Tiny crat
Causes	Severe blows or shocks during assembly or in use drive the balls into the raceway.	Continued back-and-forth movement through a distance smaller than distance between balls or rollers pushes lubricant out from under rolling elements. Raceways wear rapidly from metal-to-metal contact.	Found o carries el or malfun Electric ing mem small ha increase
Cure	Follow recommended procedures at assembly and disassembly. Avoid sharp blows. Watch for heavy impacts in use.	If your bearings are subject to small reversing motions, select bearings in which the distance between rolling elements is less than the motion. Needle bearings may be the answer.	Check vol circuits.

e Bearings

Fatigue	Corrosion	Extrusion
y surface cracks and flakes, owed by disintegration of er sections of the bearing.	Similar to fatigue, almost indistinguishable in copper-lead bearings. Corrosion of outside housing or parts is a good clue.	Bearing fails rapidly under the load. More frequent in home-made equipment than in commercial machinery.
ft vibration, high operating peratures, shocks, low-quality icants, excessive loads, use of wrong bearing alloy.	Contaminated lubricants, moisture, acid fumes. High temperatures accelerate corrosion of lead-base bearings.	Too high a shaft load for the bearing. High temperatures, too, may soften babbits and lead-base alloys.
machine balancing, parts re-ement, and use of a better icant do not help, you should a more suitable bearing alloy.	Lower the bearing temperature by better ventilation or lubrication. Try a better oil with detergents. Shield the bearing from the offending vapor or splatter.	Use a metal with a higher load-carrying capacity. If this is impossible, use a larger bearing or shorter bearing spacing.

n Bearings

Wavy Markings	Spotty Failure	Radial Fracture
vy ball-path markings. Some-es accompanied by fracture of ball or roller separator, prema-e fatigue failure, or fracture of raceway members.	Spots of premature fatigue failure. A small section of the raceway shows spalling while the remainder is still serviceable. A line of spalling on only one side of the raceway.	Inner member breaks radially at assembly or in service. The opposite condition is scoring of the inside surface of the inner member.
alignment of bearing, housing, haft causes rolling members to from one shoulder to the other back again.	Out-of-round housing bends raceways. Rolling members bear heavily on one section or side.	Oversized shaft. Also caused by forcing a cocked bearing on the correct shaft.
rn all members carefully at mbly. Check shafts for excess-vibration and deflection. Re-e damaged housings.	Check housing surfaces for smoothness, concentricity, and absence of taper. Care at assembly should spot this condition before it starts.	Watch shaft specifications closely. Mount bearing carefully and don't use undue force.

Craters	Rust and Corrosion	Discoloration
y craters in raceway grooves.	Rust and corrosion appear on the raceway, housing and rolling members. Balls, rollers, and grooves turn chocolate brown.	Badly discolored balls or rollers and raceways. Short bearing life. Overheating, in some cases.
nd only on equipment that ries electric current by design malfunction. ctric sparks flashing from roll-members to raceway cause ll hard spots and pits. These rease with wear.	Moisture or acid fumes enter the bearing through defective seals or with the lubricant. Handling with wet, sweaty hands can start this.	Insufficient lubrication causes rapid corrosion of contact surfaces by leaving them exposed to heat and air.
ck voltages and look for short uits.	Check bearing seals and possible sources of lubricant contamination. Try shielding the bearing. Maybe you need a better lubricant.	Check central-lubrication systems, oil lines, grease cups, and oil fittings for proper operation.

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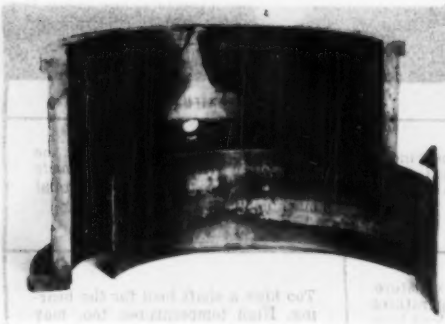

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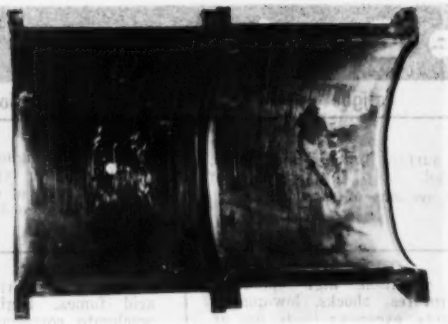

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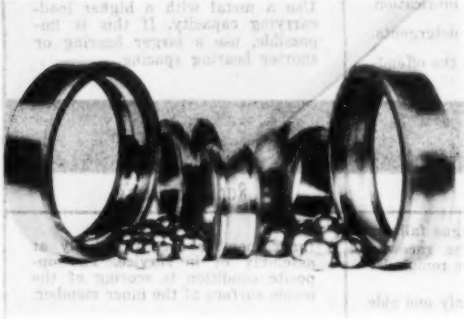

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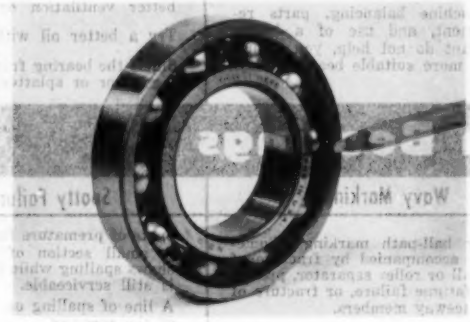

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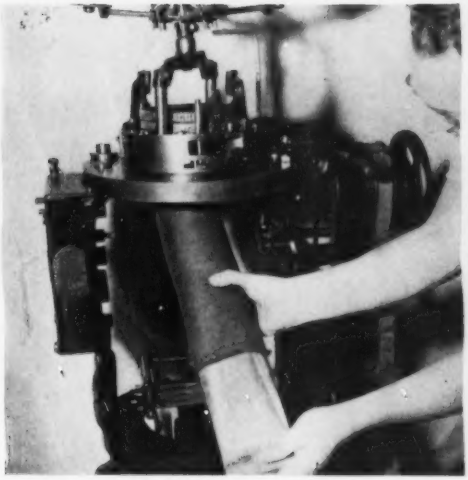
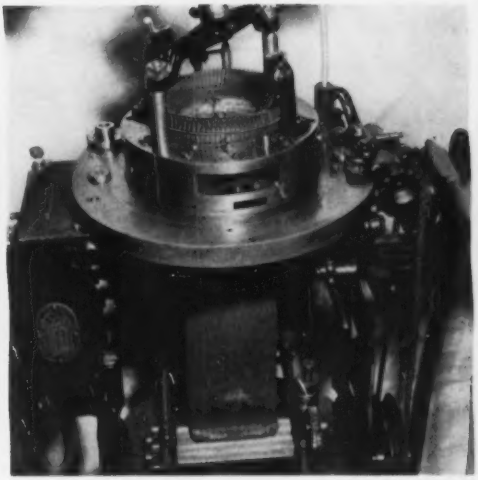


THE KNITTING-MACHINE ATTACHMENT is inserted in the knitting sock, and the sock is started through the fluted delivery rolls. Excessive lengthwise tension now is unnecessary.



DURING KNITTING, the attachment rests on the fluted rolls and the sock is pulled over it. A cylindrical end keeps the device from feeding into the rolls.

Knit-Fabric SHRINKAGE *Reduced With Knitting Attachment*

▶ **New device for knitting machine reduces lengthwise shrinkage and helps to control the width of circular knit goods. Knitted with the same cam settings, fabrics shrink 40% less in length.**

By L. I. WEINER, F. J. SPAGNA, and B. P. BERMAN
Office of The Quartermaster General

MANY TYPES OF circular knitting require considerable lengthwise tension on the fabric to pull the loops of yarn produced at the cylinder free from the needle latches or hooks so that the loops do not interfere with the operation of the needles. This tension naturally results in abnormal stretching and produces a fabric that shrinks excessively in length and has little natural elasticity, or stretch, in this direction.

Since the fabric is narrowed during knitting, there is a tendency for it to become wider during further processing and in use. Thus, the well-known tendency of knitted garments to become short and "baggy" (increased in width) during normal wear and laundering can be attributed to this necessity for applying tension in knitting.

Adjustments for width and for reducing excessive length shrinkage can be made in the calendering operation. It is desirable, however, to have some means of adjusting the width of the fabric and reducing excessive length shrinkage during the knitting operation without the necessity of using supplementary operations.

An attachment for this purpose has been developed. It can be fitted on a circular knitting machine and will change the elongated shape of the knitted loop to a more symmetrical shape. This change of the loop shape effectively decreases the length of the fabric and increases its width.

NEW DEVICE. The device is constructed so that it may be inserted into the knitted sock hanging from the needles. It rests on the bottom fluted rolls as the fabric is withdrawn from the machines and pulled over the device.

The circular middle portion of the attachment gradually flattens out so that the fabric is flat when it reaches the fluted rolls. The end of the device is in the shape of a small cylinder that rides in the valley above the bite of the rolls as cloth is drawn over the attachment. The cylinder prevents the device from being drawn into the rolls.

To demonstrate the effect of the device on dimensional changes of the tubing, samples were prepared on a 6-in.-diameter Wildman machine. The accompanying tables give comparative details in knitting with and without the attachment.

Allowing for experimental error, it is evident from the tables that shrinkage of the fabric decreases linearly with increasing knitting stiffness (courses per inch) and that there is a constant difference in shrinkage between fabrics knitted normally and those knitted with the control device for equivalent cam settings. The width of the fabric follows a similar pattern

(*Continued on page 264*)

THE DEPARTMENT SUPERINTENDENT is in on the work from the start. Only refinements agreed upon by everyone are put into effect.

EVERY PHASE OF THE JOB—in this case, doffing—is noted in detail. You can't improve a job if you don't know what's being done.

How Rocky Mount Mills Uses METHODS ENGINEERING

- Separation of spinning tasks accomplished with MTM.
- Efficiency is up. There are fewer ends down.
- Cleaning is better. Quality is higher.
- New time-study method makes for better understanding, increased cooperation.

By **P. F. MORRIS,** Methods Engineer, Rocky Mount Mills

Here, in a nutshell, is some background information on MTM

What is MTM?

MTM (Methods-Time Measurement) is a relatively new procedure for setting work standards and developing efficient work methods. The new method consists of a catalog of standard work motions with a predetermined time value for each.

Proponents of MTM state that, compared with conventional time study, MTM is usually more simple, more accurate, more widely applicable, and much faster.

Considerable attention was drawn to the new method some time ago by stories that the stop watch had been eliminated in time-study work. Such is not the case, and MTM men will be the first to admit it. But MTM lessens reliance on the stop watch and makes its use incidental, not basic, to the methods engineer.

Why MTM?

"In MTM, we have found a means of letting the supervisors tell us, the methods department, what they believe is needed to improve methods."

First came a short course

One of the first things we did was give the section men, foremen, and department superintendents an appreciation course so that they would know what MTM is and what it offers.

This course was given in six 1-hr. periods extending over a period of two weeks. Each session was given three times so that men from all shifts could attend. With this abbreviated course that required very little classroom training, it was possible for the supervisors to recognize the MTM motions and follow the motion pattern of each method without any trouble.

The supervisors' understanding of the procedure has resulted in full cooperation from these men and has made it easier for us to understand each other when we sit down to discuss the merits and demerits of old or new methods. Together, in an intelligent way, we try to determine if there are any flaws in a particular method being discussed. If there are flaws, we decide what changes are necessary before the trial period begins.

Then the jobs were studied

The methods studies of spinning

LENGTH MEASUREMENTS are important in MTM. Time values are often based on lengths.

YOU USE A TABLE to translate motions into time values. All motions are assigned a standard time value.

jobs were just the beginning of a job-evaluation system here at Rocky Mount Mills. In the MTM system, an operation is broken down into elements and the elements into motions; motions are then classified. Each motion is measured in TMU's (time-measurement units) and is converted into time units, such as decimal hours or minutes.

Each motion was analyzed to see if it could be changed to improve the quality of work or make the job simpler and quicker. For example, when we studied the different methods the spinners used to piece up ends, we found that some would lay up ends and others would twist them up. To lay up an end, we found, was quicker than twisting it in; but because of the better piece-up from twisting, we have instructed all of our spinners to use the twist-up method. Sometimes we must sacrifice speed for quality.

The trial period resulted in more changes

All changes were made on a trial basis for four weeks. The employees on the changed jobs were guaranteed their standard wages during the trial period.

During the trial period, employees were urged to talk to their supervisors about the change and to make suggestions. Sometimes we got suggestions that resulted in an improvement over the method on trial.

How we used MTM in spinning

Spinning was one of the first jobs

(*Continued on page 290*)

AFTER THE NEW METHOD is worked out, the department instructor is taught the new method by the methods department.

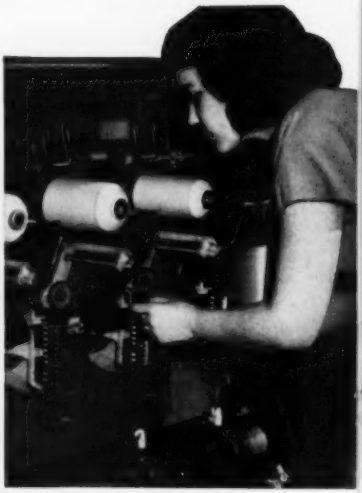
ALL NEW DOFFERS are shown the new method by the instructor. Conventional JIT methods of instruction are used.

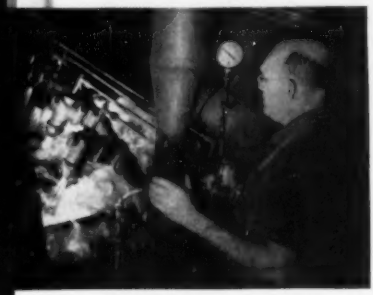
A SYNTHETIC FABRIC MANUFACTURER saved 25 percent on formula costs by substituting a Sun Textile-Process Aid for the three competitive oils he had been using. In addition to saving time and money, he has attained a great improvement in smoothness and penetration of the size.

HOW 4 MANUFACTURERS HAVE BENEFITED FROM SUN'S TEXTILE-PROCESS AIDS

By switching to Sun Textile-Process Aids, each of these four manufacturers improved quality, increased plant efficiency and effected substantial savings. The results are typical, not unusual . . . *complete details available on request.*

More and more textile manufacturers are turning to Sun "Job Proved" Process Aids to cut costs, speed production, improve quality, protect valuable machines. Why not get more information from your Sun representative? His services are free for the asking. Just call the nearest Sun Office or write to Department **T-9.**





A WOOL PROCESSOR increased his yield 3 percent when he changed to a Sun Textile-Process Aid. It improved the quality of his finished product, and speeded up production by saving preparation time and penetrating the wool fibers quickly and thoroughly.

A COTTON FABRIC MANUFACTURER ended his corrosion troubles by switching to a Sun Textile-Process Aid. At the same time he improved the quality of his fabrics, speeded up production, and widened the profit margin. In oil costs alone, he now saves $1,000 a year.

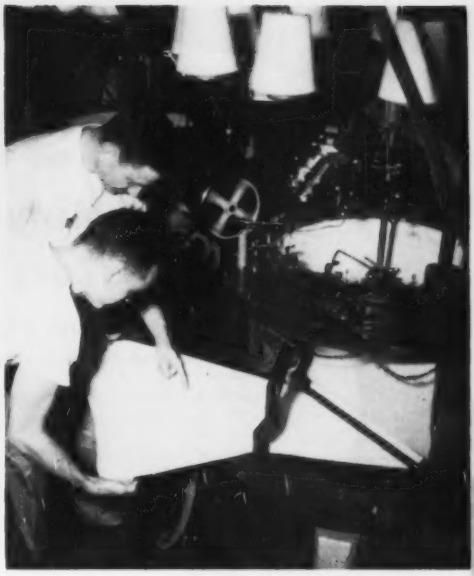
A NYLON THROWSTER found that a Sun Textile-Process Aid gave better lubrication and protection to the sized thread. It reduced breakage and also eliminated preferential pickup. Along with economies in production, he has lowered his oil costs substantially.

SUN INDUSTRIAL PRODUCTS

SUN OIL COMPANY, PHILADELPHIA 3, PA. SUN OIL COMPANY, LTD., TORONTO AND MONTREAL

SUNOCO

CAMS ARE BUFFED to a high polish with fine emery cloth. Rough cams can cause needle butts to break or jump up and produce holes or uneven knitting.



FABRIC INSPECTION IS CONTINUOUS. Inspection after machine overhaul is most important for making minor adjustments to improve knitting quality.

A MAINTENANCE Program For Circular Knitters

► Producing knitted sleepers and underwear, the William Carter Co., Barnesville, Ga., has set up a maintenance program that is well worth looking at. Here's an outline of their procedures—digested for quick reading.

By E. DALTON WHITE, McGraw-Hill Atlanta Bureau

How Often To Overhaul—

Every knitting machine is given a thorough inspection and overhaul every 1,000 to 1,500 hr. The machine is disassembled and inspected part by part. Replacement or repairs are made where necessary, and the machine is cleaned and carefully adjusted before being returned to the production line.

This time schedule is not always rigidly adhered to, for machines can get just as temperamental as folks. If a machine starts producing bad fabric or needs constant adjustment, it is yanked out of production for overhaul.

The time schedule keeps knitting machines in better working order and makes for fewer adjustments during operations. Down-time is less, and this situation means better quality as well as increased production.

Who Does It—

The knitting division maintains its own specialist to do most of the work. The specialist works closely with the fixer, who has the responsibility for cams and machine adjustment.

When a machine is ready for shop overhaul, the repair specialist and fixer discuss the machine and its operations and point out the parts to receive special attention. This procedure makes it easier to decide on replacement of worn parts.

Since the fixer is responsible for the smooth functioning of his machines, it is but natural that those parts that are likely to need adjustment more often should fall within his responsibility. Therefore, on a major overhaul the fixer smooths cams and makes final adjustments as the machine is returned to production.

The fixer also inspects and readjusts all stop motions and tension controls.

How the Job Is Done—

During the overhauling operation the machine is completely disassembled. All slots are cleaned and washed with a mixture of mineral spirits and light oil. This type of cleaning fluid has many advantages: it does a good job quickly, is inexpensive, cleans well, and yet preserves a well-lubricated condition in the pores of the metal.

Cams are inspected and buffed to a high polish and

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STRAIGHTENING SINKER WALLS should be done with light taps with a small hammer. The same method is used to straighten needle slots and sinker-ring slots.

GOOD LUBRICATION for smooth machine operation is a must. A high-viscosity oil is used after machine assembly and twice each day for needles and sinkers.

smoothness. Cam action is important in quality knitting, and a cam that is near perfection is the first step in obtaining smooth operations. Adjustments come later to produce desired knitting results.

All moving parts of the machine, including gears, drives, motions, etc., are thoroughly inspected and cleaned; and replacements are made where necessary.

Experience at Carter's is that attempts to stretch the life of worn parts is uneconomical. A machine with such parts requires a lot of attention and adjustment. The best policy is to replace them with new ones during the major overhaul. It saves trouble later.

The overhauling schedule calls for about one and one-half machines per day. To do this work, the specialist disassembles the knitting machine, cleans the cylinders and dials, makes needed repairs and replacements, installs a new set of needles, and re-assembles the machine, making it ready for final adjustments.

Careful attention is given to each moving part during final adjustment. Cams, sinkers, and needles receive special attention.

And a Few Tips—

Experience at the Barnesville mill has been that latch-needle machines do not require as frequent overhaul as other types. When bad work begins to show up, it is time to send the machine to the shop.

There is no good reason to discard all the needles in a machine when a complete new set is installed. The ones that are good or can be easily repaired are cleaned and oiled to be used as single replacements. This method has cut needle expense considerably.

Carter's experience has been that each slot should be cleaned of all oily lint so that the needles and sinkers can move freely. A handy tool for this work can be made from an old hacksaw blade. File or grind one end of a 6- or 8-in. piece into a half-moon shape with a pointed end, or knife point. The tool should be very thin so that it can be easily worked in the slots. This tool will do a good job quickly and with little effort.

Straightening sinker walls requires skill; and if it's improperly done, it will lead to trouble later. The same applies to sinker-ring slots and needle slots on the cylinder.

Several things could cause the walls to be damaged, but most frequently the cause is a broken sinker butt. One effective way to insure accuracy in repair is to place the tool firmly between the slot walls and tap the tool lightly with a small hammer. This procedure allows for control in the amount of realignment and insures that walls will be returned to a vertical position.

Every fixer knows the value of good cams and their proper maintenance and adjustment. Cams that have become worn or have developed rough spots are buffed with a fine abrasive cloth to a high degree of smoothness and polish. Rough spots on cams will cause the butt of a needle to jump or break off, causing uneven knitting. A highly polished cam makes for more even knitting.

Oily lint collects in the slots, especially the sinker slots on spring-needle machines. This lint causes an uneven stitch. The pushing up of the sinkers results in vertical lines in the fabric. The remedy in most cases is regular machine cleaning.

And After the Overhaul—

The William Carter Co. does not believe that good maintenance ends after a knitting machine is overhauled. Experience has been that periodic inspection, adjustment, and lubrication go a long way toward efficient operation.

While the knitter is responsible for blow-off of lint and general cleanliness of the machine during production and at the end of the shift, the fixer follows up by inspection and lubrication.

Good maintenance, adjustment, and lubrication—with periodic major overhaul—do much to keep a knitting machine in top operating condition. And experience at Carter's is that such a program has its advantages.

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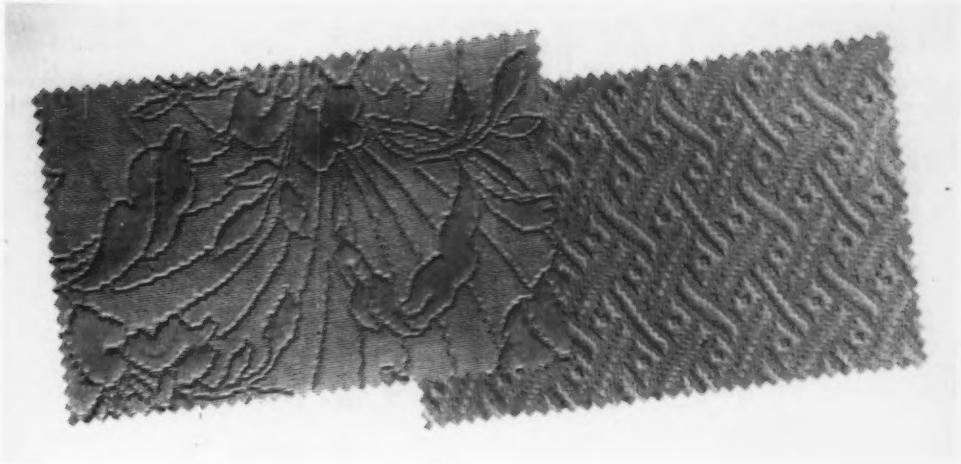

COATED FABRICS—
Profitable Sideline for Finishing Plants?

► The advent of vinyl-chloride resins has opened up the possibilities for profitable fabrics-coating operations by textile-finishing plants. But product determination and market research are necessary first steps.

By THOMAS J. KERR, Coated-Fabrics Consultant

THE COMMERCIAL DEVELOPMENT of the vinyl-chloride resins, together with a number of other polymers and copolymers, has, because of their improved characteristics, created new and enlarged older markets for coated fabrics. And, since the application of these resins is more generally adaptable to existing equipment in finishing plants, real possibilities for coatings have been opened up to the textile industry.

The mere mention of "vinyl chloride" to many a textile man may be sufficient to arouse his ire if his concern happens to be one of the many that have lost a considerable volume of business to self-supported films of this material. However, by the application of this same product in the form of a coating, or in some instances as a finish, it may be possible to regain lost markets and create new ones.

To debate the relative merits of self-supporting films, coated fabrics, or fabrics for any particular use is a waste of time. All are useful products, each with merits of its own. One point, however, is outstanding. There have been very few instances where self-supported films have made large inroads in replacing textiles for any other than industrial uses, unless the film closely imitated the cloth it replaced in appearance. That having been accomplished, contributions of the characteristics of the film-former such as waterproofness, ease of cleaning, and flame resistance have entered the picture. Many of these characteristics can be imparted to a considerable degree by coating or finishing a fabric with the same or some other film-forming polymeric material, and the basic woven appearance is there. Self-supporting films have been made to have, and to permanently retain, the appearance of expensive jacquard woven fabrics by embossing and printing techniques. These same embossed and printed effects can be obtained on lightweight coated sheeting. So the end results in the competition becomes a question of quality, economics, styling, and merchandising.

The organisol, planstisol, or paste, and the synthetic latices or water-dispersion forms of vinyl resins are the forms best adapted to coating and finishing in the textile-finishing plant. Calendering and solvent solutions have less appeal because of the cost of the

* * * * *

FIRST OF A NEW SERIES

This article exploring the possibilities of fabric coating for finishing plants and the factors involved in entering the coated-fabrics field is the first of a new series by Thomas J. Kerr, prominent coated-fabrics consultant. These articles will cover the aspects of coating from market research through details of the actual coating processes, and will run, as nearly as possible, in consecutive issues of TEXTILE WORLD. Mr. Kerr's next article discusses laboratory development of coated fabrics—equipment and techniques.

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equipment required and, in the latter instance, the fire, explosion, and toxic hazards involved.

Products Should Start Before the Laboratory

As often seems to be the case with any new product, it might seem that the best place to make an initial determination of the possibility of coatings is in the laboratory. This development work can usually be accomplished without major investment for either compounding or coating except in the case of the calender. Laboratory calendering equipment required is definitely expensive.

However, experience has indicated that it usually is better not to make the laboratory the starting point, for much time and effort on the part of laboratory personnel is apt to be wasted. In the case of coated fabrics, as with anything else, little is gained by developing a product unless there is reasonable assurance that it can be marketed on a profitable basis. This product determination can best be done by setting up a market-research project to provide a basis for management to establish its policy in respect to the new development. The survey can be conducted by the employment of outside counsel or by available personnel.

As a preliminary step, it is well to consider the effect of coatings on cloth, general characteristics of coatings to be applied, and the requirements for fabrics that make them suitable for coating. Coatings tend to increase the tensile strength and reduce the tear strength of the finished material. The latter is primarily dependent on the degree of penetration of the coating and its pliability. They give stability to bias cuts. The finished coated fabric is firmer than the original, as would be expected, and has better dimensional stability.

Vinyl chloride and most of the other polymeric coatings can be formulated to be either clear and transparent or opaque. They can be printed with the appropriate inks and embossed in almost any design. They can be made waterproof, flame resistant, resistant to most chemicals, and to have excellent resistance to scuffing and abrasion. They are easily cleaned and do not stain readily. They can be applied to have sufficient adhesion that they will not separate from the fabric under extreme conditions of flexing and folding, and formulated so they will not chip or crack. They can be made soft and pliable or hard and extremely tough, depending on the kind and amount of plasticizer employed. There are definite limits to the degree of pliability, since over-plasticizing will make them tacky or greasy. A minimum amount of plasticizer is required for processing with the possible exception of solvent coating. Again, properly formulated, they can be made very resistant to heat and light, although these characteristics will in all probability not be as good as those of the base fabric.

If the coating is to be a successful and profitable operation, it must be applied to suitable fabrics properly prepared. The cloth to be coated must be uniformly woven, free of tight selvages, and have even warp tension. Loose or torn selvages will cause damage in coating. The fabric should be in long cuts and run uniform in width. Slubs, heavy knots, trapped mill fly, loose threads, free lint, miswcaves, and holes cause damage that multiplies many times in coating. Grease, hard-water deposits, iron deposits, and dirt make it difficult to obtain uniform adhesion. Cloth should be free of wrinkles and fold marks. Once it is coated, it cannot be easily rehandled for correction of defects as is usually the case with an improperly finished fabric.

The Case for Coating By Finishers

One of the first questions to be answered before turning the problem over to the laboratory is what advantages might accrue to the business by fabric coating. In considering this question, a few suggested answers may be:

1. The expansion of markets for available fabrics.
2. Putting idle equipment to work.
3. If seasonal goods are now produced, the possibilities of the coated fabric filling in during low-production periods.
4. Obtaining government contracts. (For example, many coated fabrics the government purchases are dyed before coating, thus expanding possibilities of government business by two or more operations in a dyehouse or obtaining dyeing that otherwise might not be possible.)
5. The development of new items for the expansion of business.

Many other variable conditions may apply in answering this question, different in each individual case, and a hypothetical example might be cited to illustrate some of the possibilities to be considered. A finishing company is printing a sheeting that market research has shown is being sold to a mattress manufacturer, who uses it to make crib mattresses. Two-thirds of this material is being shipped to a coater who applies a clear coat of vinyl to waterproof the cloth. Obviously, overhead, insurance, packaging, warehousing, loading, and shipping charges, which are now being duplicated, might be reduced if both the printing and coating were done in one plant.

Nor is that all of the picture. Suppose there have been complaints (no rare occurrence) that one of the colors used in printing migrates into the coating, eventually causing a smear effect that has resulted in claims. The printer admits the color bleeds, but only because of the type plasticizer that the coater persists in using. Coating in the finishing plant would bring a quick solution to this problem by changing plasticizer or print color, whichever might be most expedient from the point of view of quality and cost.

Another question to be considered is for what type of coated fabric is there an active or potential market? To go back to our hypothetical example, which has already suggested reasons for the finishing company to consider the possibilities of coating and a product they might manufacture, let's apply one of the simplest principles of merchandising, the ensemble idea. What about padded, quilted head and foot boards for the crib from the same design of waterproof material? Or bedspread and drapes, upholstery for nursery furniture, trim for the bathinette, and chair pads for the high chair. Perhaps a coated square to put on the floor to protect the rugs while feeding the baby might sell, particularly if packed with a bib of the same design. While on the subject of the nursery, the possibilities of wall coverings and window shades can be considered.

Similar analysis of the other rooms in the home will suggest many other

(Continued on page 282)

Watch That Mica and Soapstone on Knitting Machines

The "Complete Lubrication Manual for Knitting Machines," [TW, Dec. '51, p. 114] recommended use of powered mica and soapstone for cleaning new or tight vertical-cylinder assemblies on automatic circular-hosiery-knitting machines. Knitting mills are warned, however, that use of these materials on knitting machines can be dangerous if not carefully done. Their use should be restricted except in the hands of men well experienced in knitting-machine care or machine building. Better yet, should your machines freeze, call in the service representative of the manufacturer.

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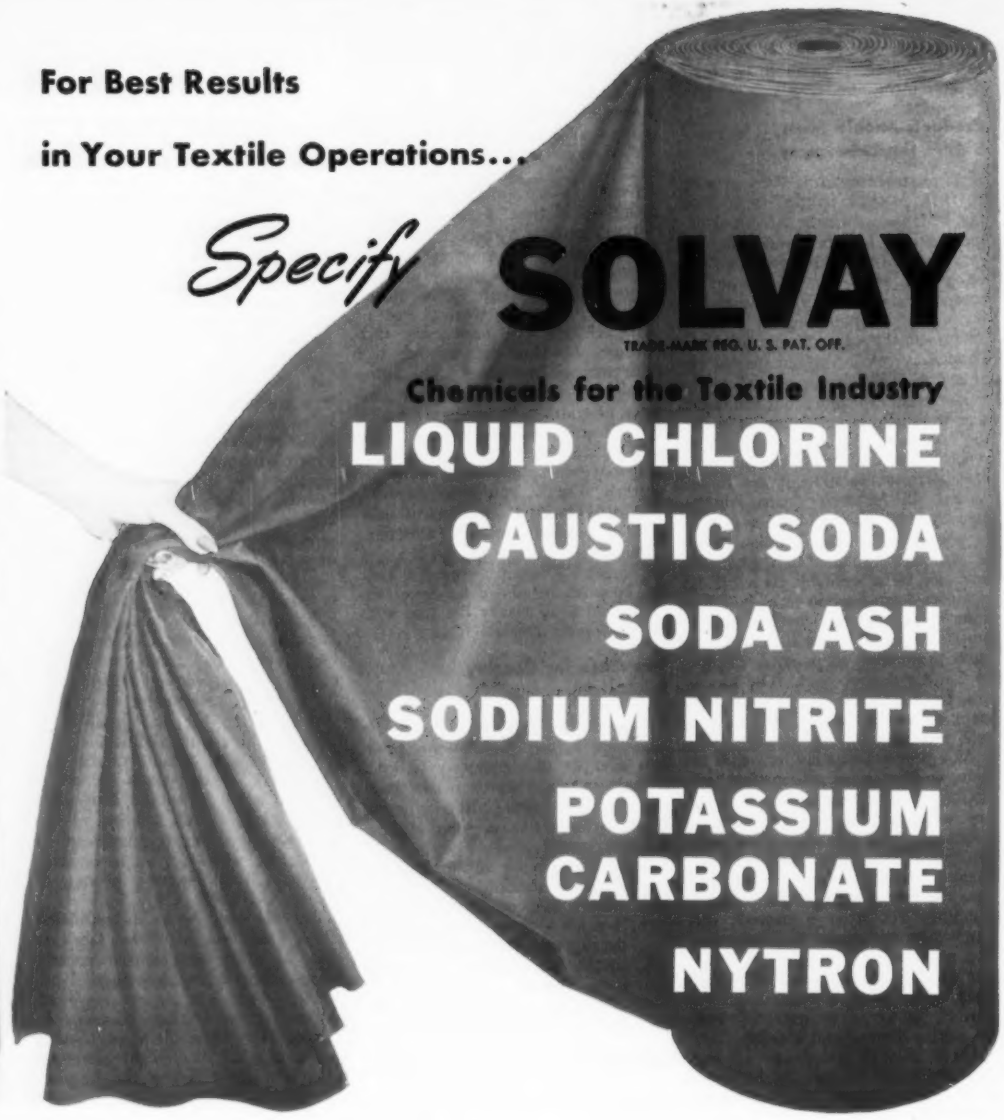

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ADVANTAGES OF CENTRALIZED PRODUCTION PLANNING

Advantage No. 1 - Responsibility is clear-cut and vested in a relatively small department that has all the tools required to do the job.

Advantage No. 2 - The work is more efficiently performed since it has been specialized.

Advantage No. 3 - Much of the work is delegated to a lower-priced clerical level.

Advantage No. 4 - Uniform and standardized procedures are possible with a centralized department having expert direction at the top.

Advantage No. 5 - Superintendents and foremen are relieved of clerical duties and are free to concentrate on production.

For Mill Success— Synchronize Production With Sales

► Many mills still need a specialized production-planning department for market research, product determination, standardization, sales analysis, sales forecasting, and production planning and control. Here's a review of the benefits of having such a department and of the penalties of not having one.

By PETER M. FEKULA, Affiliated with Barnes Textile Associates, Inc.

PRODUCTION PLANNING and control have been most highly developed in industries such as the aircraft and automotive. Here the absence of a single part will hold up delivery of the finished product and result in the shutting down of part or even all of the production line. Very detailed planning, scheduling, and dispatching, followed by meticulous expediting are required to bring some 100,000 parts of an airplane together to form subassemblies, assemblies, and finally the finished product, all within definitely specified time. This production has to be closely synchronized with the demand, which must be predicted for a long period in advance. Otherwise, the penalty for any sizable out-of-phase operation can be a severe one.

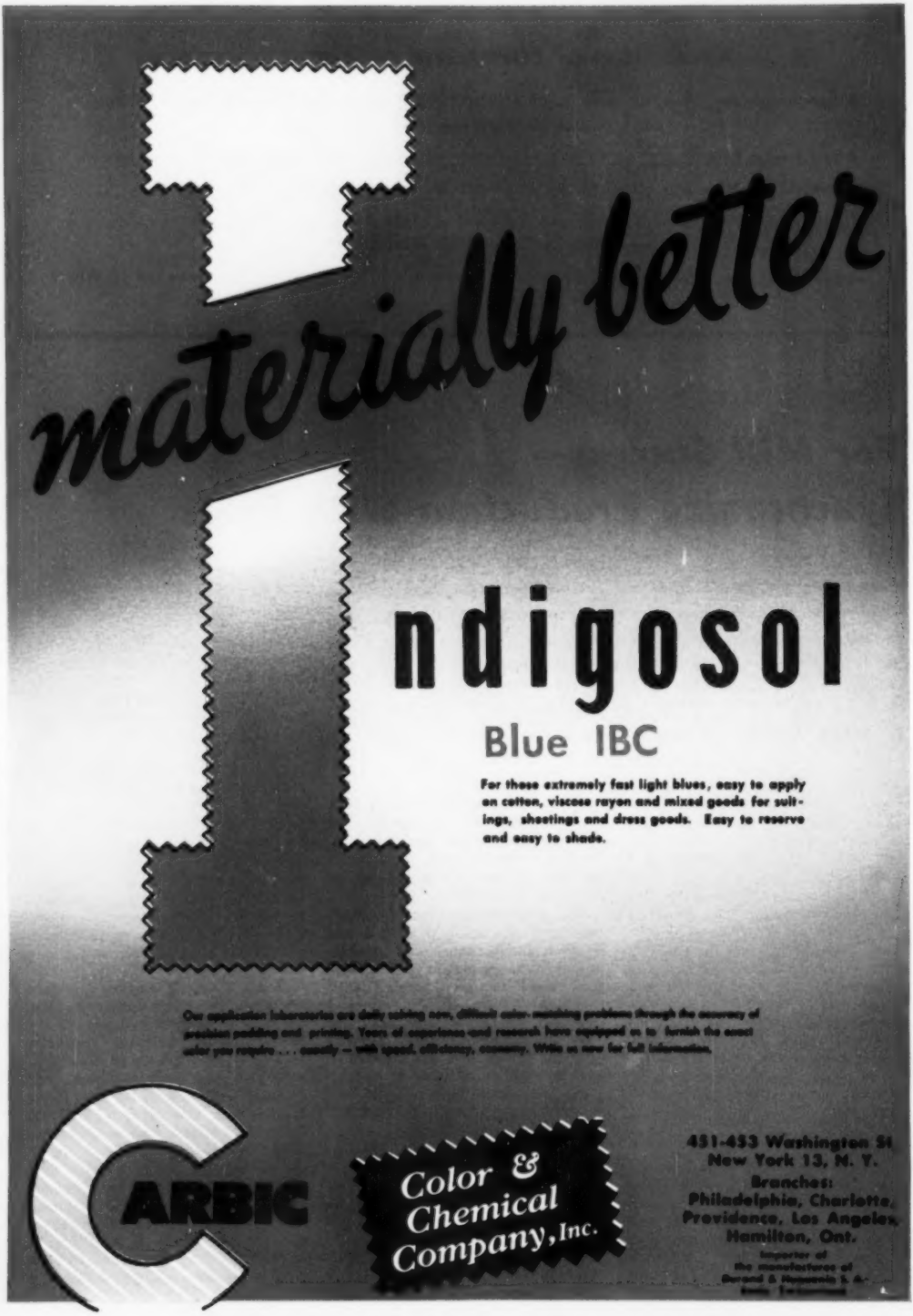
On the surface, the problem in textiles seems to be much simpler. Frequently, about the only "parts" that need to be brought together are vegetable, animal, or synthetic fibers, if we disregard dyestuffs, sizing, or finishing agents. There is no bill of material, nor is it necessary to establish multitudinous lead times for parts to be manufactured or purchased. This situation creates the temptation to "feed the cotton, wool, or rayon in on one end—something's bound to come out on the other."

Yet, while the number of component parts of a textile product is ever so much smaller than of, say, an automobile, there are certain variables that tend to make control of textile production somewhat elusive. With automobiles, the number of parts or finished cars equals exactly the quantity planned; not so with the amount of yarn or number of yards of finished cloth. It is almost always a little more or a little less than originally called for. This deviation can become considerable when the percentage of off-goods gets out of control, as sometimes happens when new patterns are introduced. There are many unforeseen difficulties encountered in dealing particularly with vegetable and animal fibers whose characteristics are not always uniform. All of these have a bearing on the quality and quantity of the finished product and in varying degree complicate the control problem.

In a textile field such as that of dress goods or other styled fabrics, the mill has to be extremely responsive to ever-changing market conditions. A new model automobile is introduced about once every year, usually with little change in basic design. The demand is fairly predictable, and generally it is possible to maintain the production as planned. With dress goods, new patterns and styles are continually being introduced and old ones dropped. The whims of the buyer are pronounced and the selection varied. The chances of guessing wrong on both pattern and quantity are greater. There are more competitors— all of which places a strain on production planning and control.

While planning has been of first interest in the metal industries, there has been little effort to apply the improved methods to textiles. These two industries differ greatly in their characteristics, and there has been little exchange of personnel between them. Furthermore, not many persons are sufficiently flexible and adaptable to apply the basic principles of one to the other. Yet this is possible to a marked degree as has been demonstrated in a few conspicuous cases.

The basic elements of planning are generally common to all industries. To a greater or lesser degree every company is involved, whether it knows it or not, in market research, product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determination, standardization, sales analysis, sales forecasting, production planning and control (which includes scheduling and dispatching, material control and generally also warehousing and shipping), and the reporting of available-to-sell items. Every company has application in one form or another of certain standard planning techniques and aids. These include among many others, "Ditto," "Sched-U-Graph," "Visirecord," "Snap Out," and various methods of mechanical reporting and tabulating, such as IBM and Remington Rand. Yet it is surprising how many textile companies have still to learn the composite use of all these tools. Many have yet to know the advantages of a specialized production-planning and control department, set up to work on a basis of measured facts.

Penalties of Inadequate Planning Are Many

The effects of inadequate planning are first felt when a company fails to meet its delivery schedules and runs generally behind and, on occasion, ahead of promised dates. The situation becomes further aggravated when, to insure that future promises to customers are kept, an excessive safety factor is applied to the production lead times. The result is increased in-process and warehouse inventories and added difficulties in keeping track of the excess material. It is not long before customers find they are waiting too long for their goods, and that the price may be getting too high.

The difficulties are further compounded when, to satisfy customers, the "preference" evil is resorted to. Orders already in production are shunted aside for those considered more urgent. Warps are changed and held, and the result is loss of production and waste, not to mention lost time and increased in-process inventories.

Another indication of poor planning is reduced profits and uneven production caused by manufacturing the wrong products, or the right products in the wrong quantities, or both. The manufacturing equipment may not be used to best advantage, or the product may be so competitive as to leave a meager margin of profit. Some firms go on for years making the same products when a study of the market might reveal they could well afford to implement their regular line with other profitable and stable items.

A company may be trying to run more styles and colors than its limited assortment of equipment permits it to do economically. The size of each run is reduced to permit satisfying as many customers at one time as possible. The result is dyeing in small quantities and frequent warp changing with all its attendant disturbances, not to mention the increased cost.

The tendency is for the sales agency or the sales department to blame the mill for its predicament, and vice versa. A common fault is the inability to encompass the problem in its entirety and the looking for the solution in only one of the components that at best may offer only a partial answer. Actually, to correct the situation fully requires synchronizing an intricate chain of events that begins with market research and ends with shipment of the goods to the customer. Both sales and manufacturing play a part in achieving this coordination.

Sales Office the Place To Start Planning

The place to start controlling production is before orders are fed into the mill. If the spring is polluted, so will be the rivulets. It is far better to organize the input at the sales end than it is to set up an elaborate control after the orders have been indiscriminately put into production.

Comprehensive planning begins with first determining the products the company should manufacture. This decision usually is a compromise between what the mill can best make as against what the sales department can best sell. The mill is interested in steady employment, maximum use of equipment and facilities, and profitable operation. The sales department wants products it can sell at a profit. To determine these products, an analysis should be made at the mill end of productive capacity of equipment under varying conditions, layout, cost of possible alterations, cost of manufacture, and other such factors. At the sales end, a market-research study and sales analysis would give industry sales by products, geographical distribution of sales, selling prices, profit levels, and over-all sales potential.

In determining the product line, the degree to which it lends itself to standardization should be ascertained. Cost can be reduced and production control materially facilitated under a well worked out standardization of designs to fit these conditions. It further involves the dropping of items that very closely resemble each other.

Once the product line has been tentatively selected, the next step is preparation of the sales forecast. This forecast is developed from past sales and productive records, consolidated salesmen's forecasts, and competitive performance. It is further tempered by taking into account the general economic situation and applying the judgment factor.

From this point on, mill-production planning takes over. The sales forecast is translated into a comprehensive production plan, which takes into account existing inventories and production capacity. Individual production orders are then released by the sales department in conformance with the requirements of the production plan.

Production control at the mill starts with receipt of the production (mill) order or release. Here starts a chain of events that require meticulous and close attention. Detailed scheduling, dispatching, and expediting follow, and the cycle is complete when the material has been shipped. A periodic report is prepared showing inventory on hand, projected sales, and projected production. From this is derived an "available-to-sell" report for the sales department that in effect is a "report card" on how well production has been synchronized with sales, and sales with preplanned production. All of these activities can be greatly facilitated through properly designed forms and procedures.

Control Should Be Centralized

There are still a large number of mills that have the production-control function scattered among a variety of departments. Responsibility frequently is divided between superintendents, foremen of the various shifts, office managers, and others. It is not uncommon to find a foreman devoting more than 50% of his time to work that could be performed by a production-control dispatcher or expediter. A few of the advantages of collecting these scattered functions and integrating them into one production-control department are given in the accompanying panel.

The total personnel required for the new department will not exceed the total manhours previously expended on production control. In fact, it should be less and the control immeasurably better.

The finest organization structure and methods are of little avail unless the right people are selected for manning both the sales and the production-planning and control operations. Personnel for the most part can be recruited from within the company and given adequate training. Men with mill experience are to be preferred, and the ability to work in harmony with the production supervision is a special requirement. The head of the production-control department

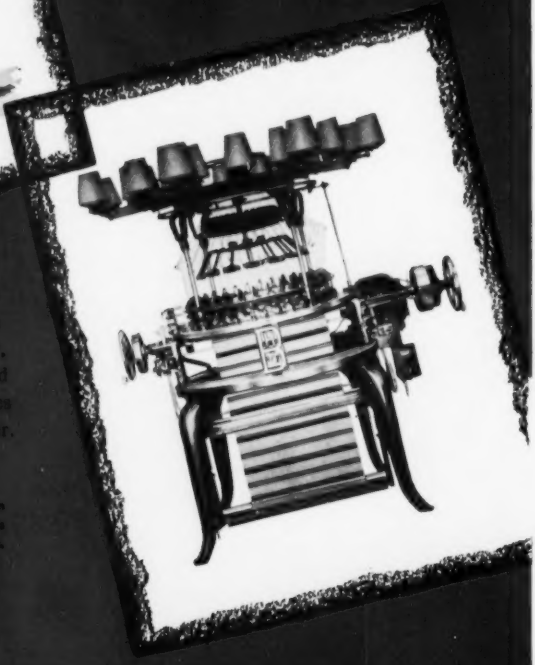
(Continued on page 262)

LEADING THE KNIT PARADE

HANES

P. H. HANES CO.
Winston-Salem, N. C.

The famous HANES trademark on knitwear stands for superb quality and attention to detail. Every stitch in every Hanes garment must be just so. Every detail must be as nearly perfect as possible.



Brinton, serving the knitwear industry since 1885, is likewise famous for careful attention to the details that result in smoother, faster, more economical production. It's a fixed Brinton policy that every one of our machines must do its job not "just as well" but better.

One of the many Brinton machines used by Hanes is the model pictured here.

Model SELECTO Style 88

The SELECTO is the ultimate among narrow-striping picker top knitters, for the production of fancy striping arrangements for bonnet, polo and T shirts. It makes plain jersey goods equally well.

With the SELECTO it is easy to produce stripes from a single course to ten inches or more in width. Brinton has engineered the selective fingers and compact control mechanism so that an almost limitless variety of color and striping is quickly possible with the SELECTO.

The amazing ease of operation, unusual efficiency and rugged, trouble-free dependability are typical Brinton features. The SELECTO is available in 24 and 25 inch diameters with 10 feeds. Average hourly production rate is 20 to 25 yards.

Engineered for the Knitting Industry

BRINTON

CIRCULAR KNITTING MACHINES

KENSINGTON AVE. & M ST., PHILA. 24, PA., U.S.A.

Improve Your Roving

(Continued from page 123)

back stock. Sufficient back stock should be tested to assure that no long-range or intermittent variations in quality or unit weight are present. Any variations that are found should be traced back to their source and corrected before proceeding further with roving-frame testing. Good-quality back stock is essential for good delivered roving.

With good back stock assured, select one frame on the hank roving being tested. Check carefully every point listed on the roving-frame-inspection form. When all parts have been thoroughly inspected and replacements, corrections, and adjustments have been made to bring the frame to near-perfect mechanical condition, the frame may be started up. After starting the frame, all details of operation should be carefully noted and a record kept of all end breakages and their causes. Frame tension should be closely watched, also the methods of creeling, piecing, doffing, picking clearers, and cleaning.

Reel Roving and Yarn

A few layers of roving are run onto the bobbins and an 8-bobbin size reeling made for roving hank. A gear change is made, if necessary, to bring the size to standard. Reelings should also be made from the full bobbins after doffing. An 8-bobbin size from the test frame is run through the spinning frame. Check spinning-frame gears for correct draft and twist. Test the spinning yarn made from the test roving for size, uniformity, appearance, and skein strength. Several of these yarn tests should be made on selected roving to assure that results are consistent and that no irregularities of any kind are present.

Past experience shows that if this system of checking is followed faithfully, test results of the yarn will be satisfactory in every detail and will show improvement to some degree over the yarn made before checking all operational details. These results will indicate that the standard organization is correct and that settings, mechanical conditions, cleaning schedules, and operating methods are suitable for making good roving and yarn. The close checking, changes, improvement in mechanical condition, and operating methods followed through on the one test roving frame should be applied to every frame in the department.

It has been found in actual practice that this system will bring better, more positive yarn improvement than ordinary hit-or-miss methods.

Louise E. Wilie

Richard B. Pressley

Two New TW Editors

Two new editors, Richard B. Pressley and Louise E. Wilie, have been added to the TW editorial staff.

Richard B. Pressley joined the full-time staff of TEXTILE WORLD editors on Dec. 1 as assistant editor, located in TW's new editorial offices at 201 E. Coffee St., Greenville, S. C. Dick, widely known in the textile industry, was formerly connected with J. P. Stevens & Co. in Greenville.

Dick brings to the TW staff a well-rounded store of education and both journalistic and mill experience. He is a graduate of Parker High School, in Greenville, attended Berea College and Furman University, and took extension courses at Clemson College.

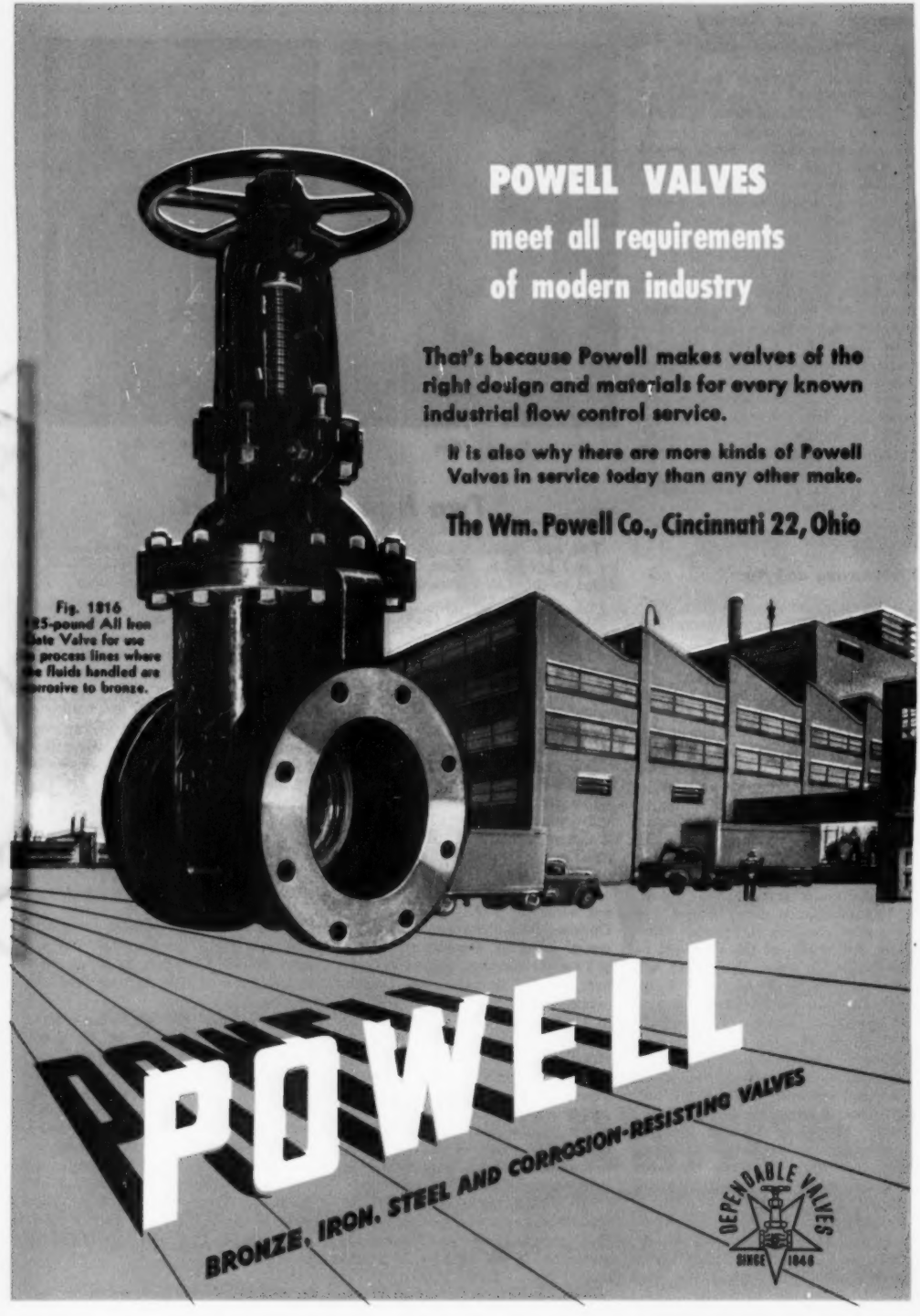
His first job in the textile industry was with the J. P. Stevens & Co.'s Duncan Mills, Greenville. During several years at Duncan he worked as a twister operator, warp man, loomfixer, head loomfixer, and assistant overseer. In 1947, he went with W. D. Dodenhoff Co., affiliated with U. S. Rubber Co., Weatherhead Co., and Houdaille-Hershey Co. For three years he worked with that firm in the experimental development of textile supplies and textile machinery. During his connection with Dodenhoff, he traveled much of the South and developed a wide acquaintanceship with Southern mills and mill men.

In 1950, he returned to J. P. Stevens & Co. and was connected with that company's central-training department. In this capacity, he assisted in organizing loomfixer training in several of the Stevens plants and in writing the texts used in the training program. Besides writing these company texts, Dick has also written a complete textbook on loomfixing and several articles—such as "The Weaving of Nylon Cloth"— published in various textile magazines.

The addition of Dick Pressley gives TEXTILE WORLD three well-experienced, capable, weave-room men on the staff: Gene Schremp, for several years a consulting editor and writer on woolen and worsted weaving; W. C. Westbrook, for several years a TW writer and for several months a consultant editor on cotton weaving; and now Dick Pressley, well-experienced on filament and staple-synthetics weaving.

With these three editors—all good mill men and all good writers—TW is in an excellent position to do an outstanding job of covering the field of weaving.

Miss Louise E. Wilie, formerly secretary to Chief Editor P. M. Thomas, has been promoted to editorial assistant. Miss Wilie will be in TW's New York office and will handle some news and other departments in addition to assisting Art Director Bob Fink. Her past editorial experience includes four and one-half years of newspaper reporting in Texas and in Nashville, Tenn., three years on the staff of *Aero Digest* magazine, and two years of U. S. Army public-relations work.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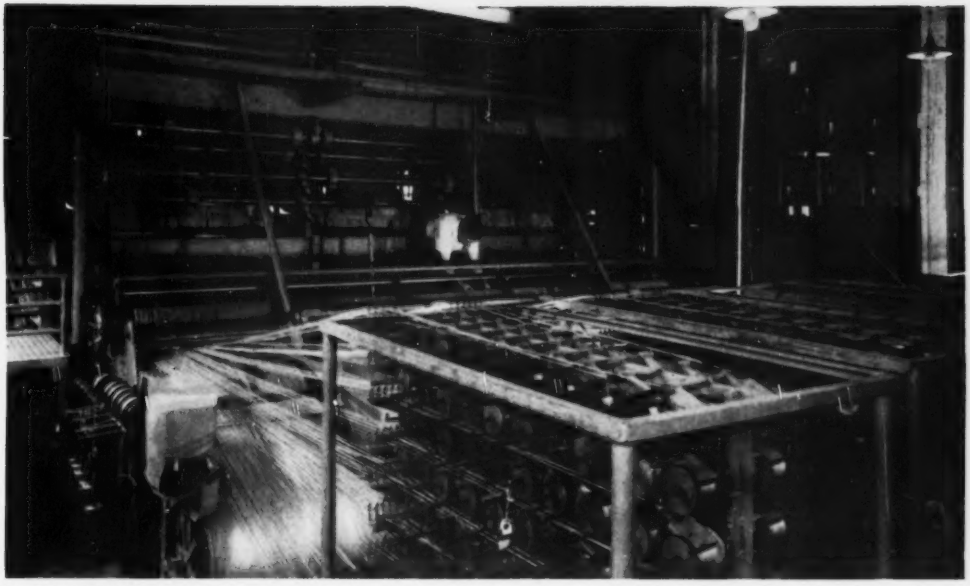

ELECTRONIC BEAM LET-OFF CONTROL UNITS (upper right) are 10 in number. They match the 10 creel sections and synchronize them. In the left foreground is one of the 10 beam let-off-drive motors.

Nylon-Carpet-Beam LET-OFF Is Electronically Controlled

► Seconds from irregular weaving of high-quality carpeting have been reduced at Nye-Wait Co. by synchronized average-tension and rate-of-feed control of beams behind the loom.

► Beam let-off control is interlocked with the main loom drive.

► "On-Off"-type control is relatively insensitive to voltage, temperature, and humidity variations, yet it regulates beam tension precisely over various let-off speeds and beam diameters.

By F. T. BAILEY, Westinghouse Electric Corp.

A NEW ELECTRONIC beam left-off control has been installed at Nye-Wait Co, Auburn, N. Y., that is helping the nylon-carpet mill reduce the number of seconds caused by uneven warp tension and irregular weaving.

Ten complete "sectional" drives now are in commercial production on a large loom weaving wide nylon carpeting. The loom uses five binder warp beams and five stuffer warp beams in the creel. Because of the physical size of the loom and the extreme total tension required for the high quality needed, it was necessary to divide the load into narrow sections and to control each section individually.

It is of course absolutely necessary that tension between sections be matched at all times. Uneven tension can cause warping, shade marks, and other defects that tend to reduce sales appeal, product life, and retail selling price.

How the Control Works

The new control is an "On-Off"-type regulator that controls an a.c. capacitor-run motor. When the operating contact in the tensiometer (a tension-sensing device) closes, it indicates that desired tension has been reached. The motor then is energized, and warp ends are let off from the beam. The let-off of warp reduces the tension until the operating contact reopens and the motor is de-energized.

The worm gearing, a vital part of the system, locks the beam when the motor is not running and thus holds tension when the loom is not in operation. No automatic take-up provision is made; so in the weaving of synthetic yarns, which have a tendency to stretch gradually, there is no take up of the creepage that occurs during shut-down periods.

The control system is simple in its design, circuit, and components. A single gas-type electronic tube is used

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Du Pont Dyestuffs

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

TENSIOMETER samples a small group of ends and decides whether over, normal, or under tension is being obtained on each of the ten sectional warps. Total travel of the moving arm is only a fraction of an inch.

CONTROL UNIT for let-off drive, boxed in a NEMA-1 cabinet, includes 10 gas-type electronic tubes to control each of the a.c. beam let-off motors. The maximum, operating, and minimum tensiometer settings are arranged by manual adjustment.

to control each a.c. beam let-off motor. Line-voltage variations have little or no effect unless the voltage drops so low that the motor cannot turn over against the friction load.

The only adjustment required is in the tensiometer, which must be set for maximum, operating, and minimum tensions. The maximum and minimum contact settings are safety provisions provided to stop the loom in case of failure anywhere in the let-off system.

Further Control Details

The complete system for each individually controlled beam consists of the following:

1. An a.c. capacitor-run motor with special torque characteristics. This is a ball-bearing-type fractional-horsepower motor, with a top speed of 1,400 rpm. on 115-v., 60-cycle, single-phase current.

2. A beam let-off control with a d.c. quick-stop dynamic braking circuit, mounted in a NEMA-1 cabinet.

3. A tensiometer with operating and overtravel contacts for over- and under-tension. This is a precision instrument that senses tension by sampling a small group of warp ends located between the beam and the loom. Total travel of the moving arm is only a fraction of an inch. The tensiometer is enclosed in a special die-cast housing.

4. Gearing, to match the top speed of the motor to the maximum rate of feed at minimum beam diameter, may consist of a V-belt pulley or a spur-gear reduction to a worm-gear drive with a reduction of about 50 or 60 to 1. The worm-gear output is reduced further by spur gears coupled directly to the beam. This final reduction often is made by chain and sprocket instead of by direct spur gearing.

It has been found advisable to interlock the beam let-off control with the main loom-drive control. When they are so interconnected, it is possible to obtain the following operational pattern, whether a single- or multiple-beam loom is involved:

1. When the loom is started, all the motors operate in the forward (let-off) direction as dictated by the operating contact of the tensiometer switch.

2. When the loom is stopped, all

(*Continued on page 274*)

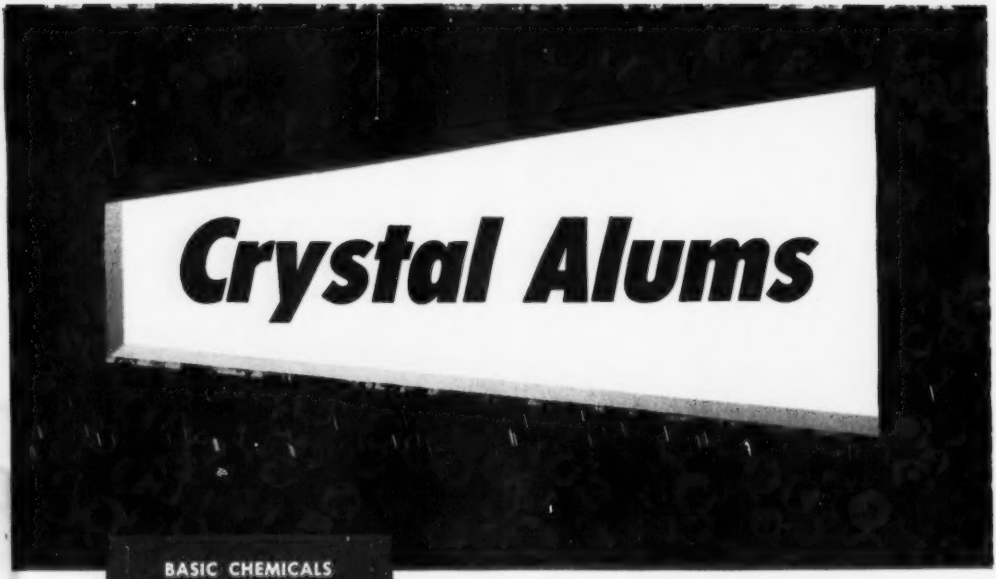
Improved Let-Off Controls

The weaving of high-grade carpeting from synthetic materials such as nylon accentuates the ever-present problem of beam let-off control.

For years the textile industry sought a suitable means of letting off warps that would provide a constant average tension and rate of feed as the ends were drawn from the beam. Until recently, let-off devices consisted of some form of mechanical braking system in which the brake is alternately released and applied when the tension changes on the warp.

Because of consumer demand for better and better final-product quality, several manufacturers have entered the warp-tensioning field with various electrical systems. This trend is a manifestation of the increased electrification of the textile industry now going on because mechanical means are proving inadequate for modern operational speeds and newer raw-material handling.

The system of beam let-off control installed at the Nye-Wait mill was worked out cooperatively between Crompton & Knowles Loom Works and Westinghouse Electric Corp.



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U.S.P. grades conform to the requirements of the U. S. Pharmacopoeia (XIth) and National Formulary (IX) in all respects).

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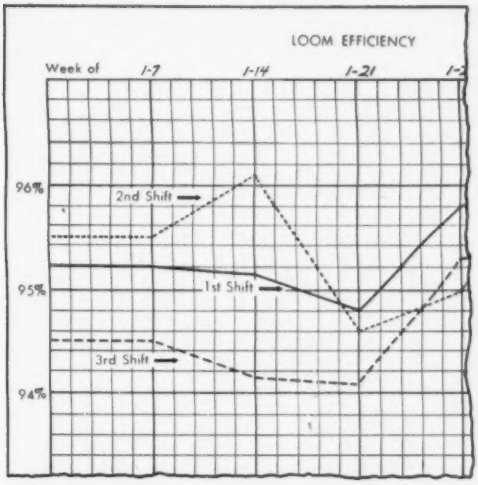
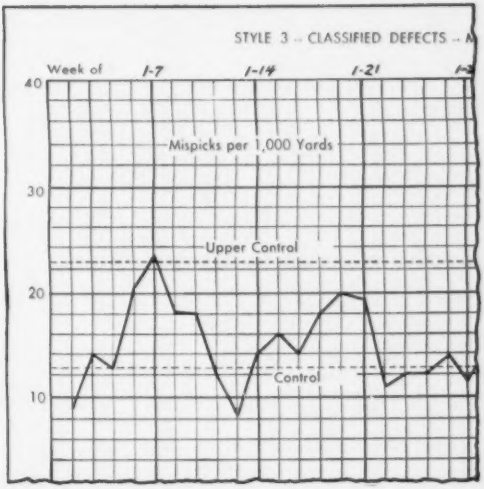


THIS PRODUCTION GRAPH is a comparison of daily efficiency records of the three shifts of a weave room. The production of the first shift is shown by the solid line, the second shift by the dotted line, and the third shift by the dash line.



CLASSIFIED-DEFECT GRAPHS are used to follow any troublesome cloth defect. The bottom broken line (control line) shows the average mispicks to date. The top broken line (upper control line) is the danger line; any mispicks above this line will result in second-quality cloth.

5 CHARTS and GRAPHS
That Help Weave-Room Control

▶ **Charts and graphs, properly made and used by overseers and second hands, are valuable production tools. By their use—**

Permanent records of importance are kept

Efficiency of shifts is compared

Causes of low production are determined

Excessively high seconds are reduced

By W. C. WESTBROOK, Consulting Editor, TEXTILE WORLD

THE MANY RECORDS and reports so necessary in the operation of a textile plant can become very confusing and meaningless unless boiled down to a few comparative figures. One of the simplest methods of keeping a permanent record, along with being able to tell just what is going on, is by means of graphs.

The graph is a collection of statistics, a picture, and a map. It shows where you are, where you have been, and, by indicating the trend, shows to a certain extent where you are going. In a matter of seconds you can compare your production, seconds, costs, etc., with that of last week, last month, or last year. To compile this comparison otherwise would require hours of digging into recorded figures.

Many of the statistics of the weaving department lend themselves readily to graphic presentation. The loom efficiency, figured from the pick counter readings each week, can be put on a graph in such a way as to give quick and easy-to-read comparisons between shifts, mills or sub-departments.

1. Production Chart

The curved lines of the production chart denote actual loom efficiency and show the relative position of each shift in regard to production. Such a record, when posted where all concerned can see it, encourages competition.

Much valuable information can be obtained by studying one of these production charts. Each shift will have its ups and downs, but the trend should be about the same. If the production of one shift is badly out of line with the others, an abnormal condition is indicated. It may be that the weak shift is having materials or maintenance problems, the supervision may be at fault, or the operators of the preceding shift may be leaving the job in bad shape. The graph will show when such a condition exists, and judicious investigation should disclose the cause and cure.

The rise and fall of the production curve is governed to a certain extent by the condition of the machinery, the quality of the warp and filling yarns, the attitudes of the employees, the temperature, the hu-

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midity, and the decisions of management. An observant supervisor can predict the production trend as a weatherman predicts the weather. Recognizing the symptoms of a downward trend on the graph, he can apply the brakes and correct the trouble.

2. Weave-Room Seconds

The percentage of second-quality cloth can be placed on a graph with the loom efficiency; or for competitive purposes, it can be put on a separate graph in the same manner as the production. In either case, it will be found that when the production curve is upward, the seconds curve will be downward, and vice versa.

Correct diagnosis of the seconds trend will often point out an abnormal condition that can be remedied before matters get out of hand. A study of the seconds graph will show that the things that affect production also affect seconds. Even the seasons of the year are reflected in the seconds trend. Certain types of defects are more prevalent during the windy, changeable days of spring and fall. However, improved humidification and air-changing systems have partly overcome this condition.

Another type of seconds graph is the classified-defects chart. This chart identifies one type of defect and shows what progress is being made daily. For example, the graph illustrated is used for the control of mispicks in certain styles of cloth. This graph has a control line (lower dotted line), which is based on the previous average number of mispicks per 1,000 yd. of cloth, and an upper control line, which is the danger zone.

The object is to keep the curved line at or below the lower control line. When the trend is toward the upper control line, a thorough check-up of existing conditions is indicated.

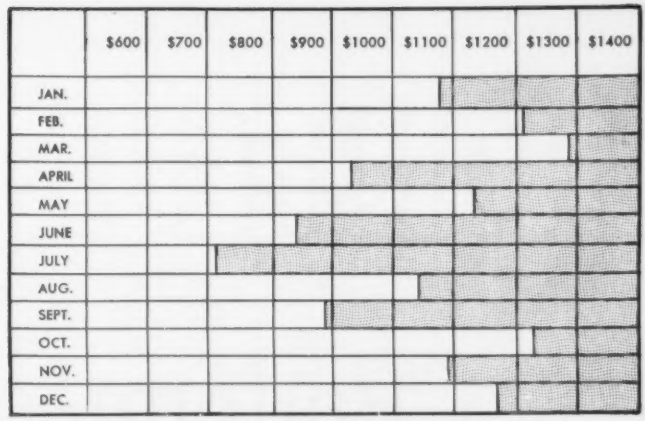
Any of the various prevalent cloth defects can be handled on one of these graphs if accurate figures are available upon which to base them.

3. Cost of Repair Parts

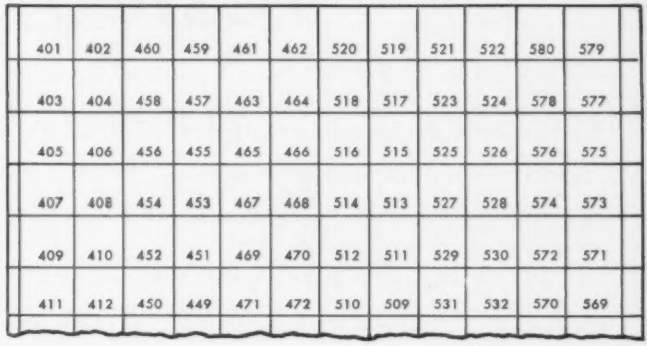
Many graphs can be made in the fields of cost and waste control, both in separate items and in the over-all picture. The accompanying illustration shows a simple bar-type graph for dramatizing the cost of check straps each month. From previous records, the average cost per month of this item was known; and the chart was made to take care of any variation from this average figure.

Notice that there is more room on this chart for the reduction of costs than for an increase. It is always bet-

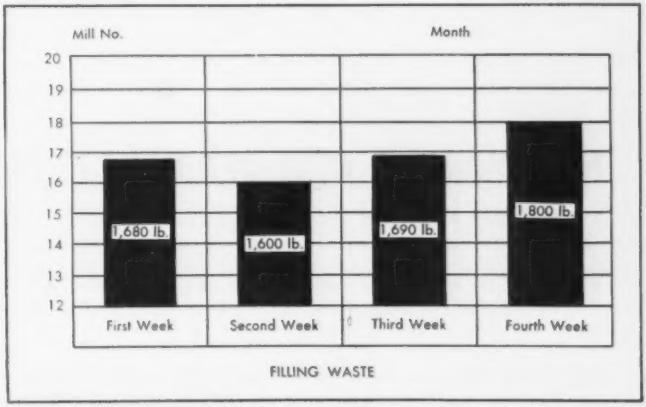
(Continued on page 266)



LOOM-REPAIR COSTS are shown by this bar-type graph. This graph is purposely unbalanced to show the high cost of check straps. To balance this graph, the check-strap cost will have to be reduced.



BROKEN PICKS are reduced by the use of this floor plan as a recording tool. A dot is placed in the block representing a loom when the loom makes a broken pick. Reports from the cloth room point out the broken picks. Several dots in a block show that a loom needs attention.



FILLING WASTE per week is recorded on this chart. It is a good idea to post the chart on the department bulletin board so that each individual who has some part in making filling waste can see it.

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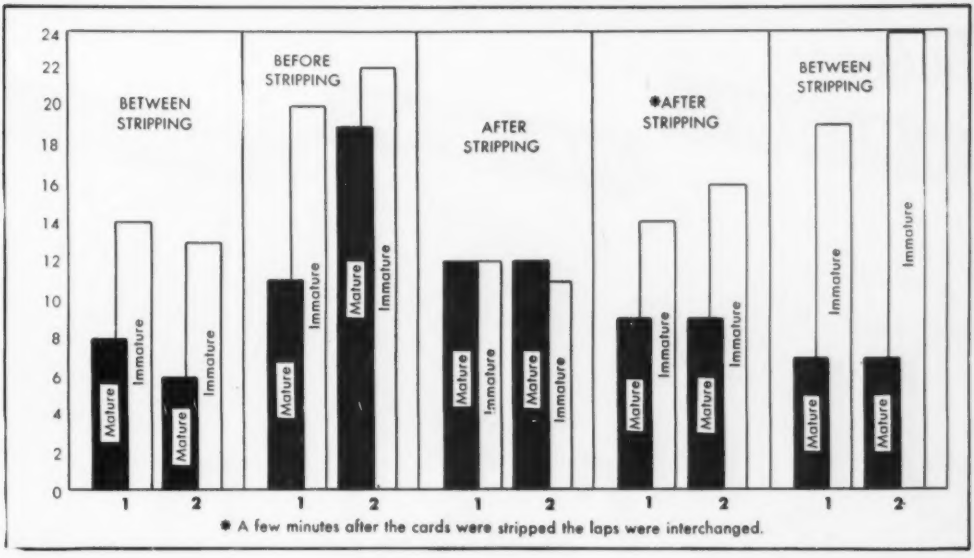


* A few minutes after the cards were stripped the laps were interchanged.

Small Differences in Maturity Make Big Differences in NEPS

▶ That's what Wamsutta found in running an experiment on cottons differing by about 10% in maturity. The card web showed up to a 65% difference in nep counts!

By EDWARD S. RUDNICK
Director of Research, Wamsutta Mills

A 10% DIFFERENCE in maturity of two cottons can produce about a 50% difference in neps— that's the main result of a recent experiment we made at Wamsutta Mills.

In this experiment, 12 bales of cotton (each being staple cotton of the same length, Middling Grade, 1948 crop, and Delta Region) were randomly selected. Twenty-four samples were taken representing each side of these bales. To determine rapidly the most mature of these twelve bales, the samples were all dyed together by the differential-dye technique developed by Charles Goldthwait of the Southern Regional Research Laboratory [TW, July '47, p. 105]. When this technique is used the thin-walled (or immature) fibers dye green, while the thick-walled (mature) fibers dye red.

Since the bales were all similar, it was rather difficult to evaluate the dyed samples, so each was hand carded to get a more homogeneous mass of color. Then several technicians each selected the samples representing the two most mature bales (the reddest) and the two most immature bales (the greenest). There was general agreement as to these four bales. Also, all agreed that the difference in color between the samples from both sides of the same bale was less than the color difference between the separate bales. Thus, the variation in maturity among the bales was apparently greater than that within the bales.

Four Bales Processed Into Yarn

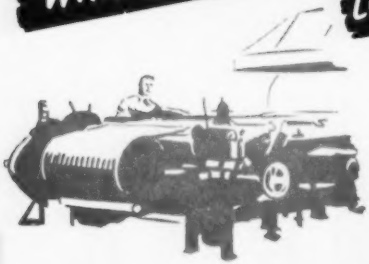
These two most mature bales were opened in a single mix, and several picker laps made from them. The same was done for the two immature bales. Two pickers laps of each mix were selected and run at the same time through four adjacent cards. Halfway through, the laps were interchanged so that any influence of the cards themselves would be imposed on each of the laps. During the carding, several nep counts were made, both of the card webs and card slivers. The cotton from these two sources—the mature and immature bales—was kept separate and processed into two counts of yarn in the region of 40/1. During this processing, several nep counts were also taken of the comber, breaker-drawing, and finisher-drawing slivers. Finally, the yarns produced from this cotton were broken, sized, and boarded in the laboratory and graded on the basis of neps.

Up to 65% Difference in Neps

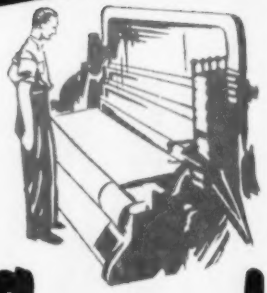
The two reddest bales showed average maturities of 81% and 86% by the polarized-light technique wherein 600 fibers were individually counted under the microscope. The two

Reduce:

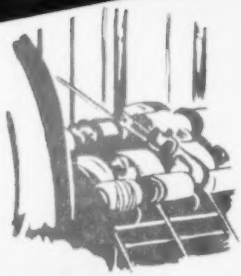
WARP BREAKS



LOOM STOPPAGES



LAP-UPS



Brytex Controls Fibers

Prove the practical value of any Brytex product at our expense!

FOR SLASHING

LUBRENE — A well known, versatile product that increases pliability and lubricates the warp. For rayon, acetate, cotton and nylon when used with gelatin, dextrine, soybean, and certain resins.

SPUN SIZE S — Warp sizing gum for spun acetate, spun rayon and blends with wool. Insures maximum penetration *plus* pliability. Reduced shedding and balling improves weaving efficiency. Easily removed in finishing.

SYTEX — New warp size for viscose and acetate *filament* yarns. Deposits an extremely tough, pliable film for better weaving. Runs cleaner than gelatine or casein type sizes. A highly concentrated powder that dissolves readily. Easily desized.

FOR FILLING

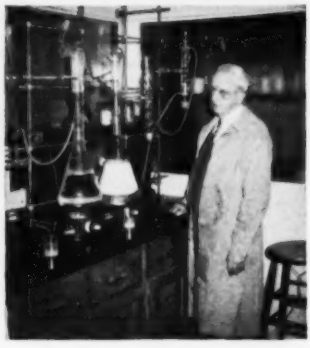
CONDITIONOL 173 — Efficiently sets the highest twist, deadening yarn and insuring kinkless filling; also increases breaking strength. Contains inhibitors against rust and mildew.

FOR ROVING

CONDITIONOL W — Eliminates STATIC in woolen, worsted and blended fibers! Increases yield, decreases double ends on cards, roving and spinning frames.

FREE TRIAL SAMPLE

Which of these Brytex products could make your job easier? Ask for a free sample of any that you would like to give a mill test. It does not obligate you in any way and may be the cure for most of your fiber control problems.



Send your problems to Bryant

We maintain an unusual laboratory, headed by a seasoned textile man and staffed with competent chemists. Chemical problems are realistically attacked with an intimate knowledge of mill conditions. We invite you to put your fibre control problems in our lab without cost or obligation.

Brytex PRODUCTS

BRYANT CHEMICAL CORPORATION

N. QUINCY 71, MASS. — BOX 2301, SPARTANBURG, S. C.

greenest bales showed results of 68% and 75%.

Neps per 100 sq. in. of card web of the two mature laps and the immature laps are compared graphically in the chart at the top of page 169.

In the 1,000 sq. in. of mature web that were observed there were 100 neps, while for the same area of immature web, 165 were counted, or 65% more.

The neps per 10 gr. of card sliver averaged 81.5 for the mature and 122.8 for the immature, or 51% more.

The same nep count of the combed sliver gave 40.2 for the mature as against 63.0 for the immature, or 57% greater nep count.

In the breaker drawing, it was 40.6 as against 48.8 or a 20% difference.

Finally, in the finisher drawing, the neps per 10 gr. were 44.3 for the mature and 54.4 for the immature, or a 23% difference.

As for the appearance of the yarns spun from these two mixes, more actual neps were observed in the immature cotton than in the mature. However, no great difference between the two yarns was apparent. The actual neps in the yarn were apparently obscured by "false neps" in the form of fly and motes spun into the yarn. In other words, the 50% difference in the card-web nep counts was not so apparent in the yarn.

As for the strength of these two yarn counts, the average break factors were slightly higher in each case for the mature cotton than for the immature; 2,677 vs. 2,525 for one count, and 2,722 vs. 2,597 for the other.

Thus, these results indicate that a maturity difference of about only 10% led to a nep-count difference of about 50% in the card web.

As a check on the original differential dyeing, samples of the 12 bales were sent to the Southern Regional Research Lab, where Mr. Goldthwait repeated the dyeings. Although the results did not check exactly, since the samples were all so close anyway, it did verify that the bales selected were about the most mature and most immature of the 12, although SRRL found only about a 7% difference in maturity (checked by swelling in sodium hydroxide under the microscope) instead of the 12% difference measured at Wamsutta (by polarized light under the microscope).

What About Effect of Fineness?

In their most recent correlation study between fiber properties and processing characteristics, Webb and Richardson of the U. S. Dept of Agriculture (Production and Market-

(*Continued on page 260*)

Hydraulic PRESS *at Floor Level Expedites Baling of Cloth*

▶ **Advantages include—**

Bales are more uniform
More bales are completed each hour
Bales contain greater yardage of cloth
Packing cases may be used, if desired
Bales are fastened more easily

By W. C. WESTBROOK, Consulting Editor, TEXTILE WORLD

THE CLOTH ROOM of a large Georgia mill is built right on the ground, and the installation of a hydraulic cloth press presented a problem. One machine company had the solution in a double-ram, draw-bar-type press with all the mechanism mounted on top of the press. The only part below floor level is the platen that rests in a small pit approximately 1 ft. deep, 2 ft. wide, and 5 ft. long.

The top of the platen is level with the floor; and the truck of cloth is pushed directly on it, with the casters resting on the floor at each side and the truck remaining in the press during the baling operation. The platen is raised by two hydraulic rams until a predetermined pressure is reached, and it is then held in position until it is released at the proper time by the operator.

The press is constructed to withstand a working load of 150 tons. It has 6 ft. of open vertical space and can handle goods up to and including 48 in. in width. The 15-hp., 1200-rpm. motor is connected to two rotary-type hydraulic pumps. One of the pumps is a 1000-lb. high-volume pump, and the other is a 2000-lb. low-volume pump. With this arrangement, both pumps are working until a pressure of 1000 lb. per sq. in. is reached; then the low-pressure pump stops, and the stroke is completed by the high-pressure pump. This method greatly speeds the stroke and reduces press time.

In addition to a saving of floor space and elimination of a large pit or base, this press also has the following advantages over presses formerly used by this mill:

Although the usual output is about 60 bales per shift of 8 hr., this press has turned out more than 100 bales, or one every 4 min.

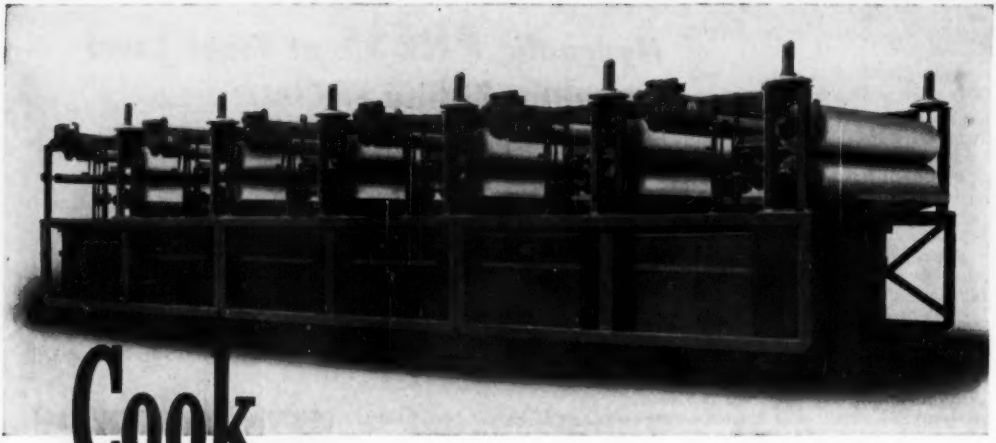
A denser bale is obtained. The press is capable of producing 15% to 25% smaller bales, or a like increase in poundage with the same-size bale.

THIS HYDRAULIC PRESS has the platen at floor level. A truck loaded with cloth is rolled over the platen, and the truck is left in the press while the cloth is baled. An overhead motor operates two pumps that supply power for the press.

The press is versatile. Because of its sensitive controls, this press is ideal for handling the telescoping type of packing cases, as well as both large and small bales. The controls can be set for any desired pressure, and the pump stops automatically when the pressure is reached.

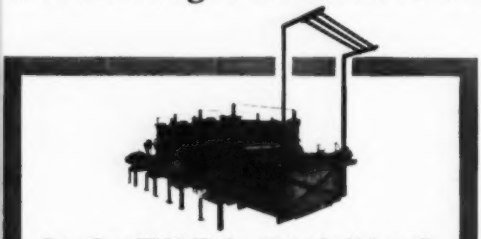
The press simplifies handling. With the old-type press, the pressman removed the cloth from the truck and placed it on the bed of the press. With the press now in use, the trucks are pushed directly on the press, and extra handling of cloth is eliminated.

The press is more convenient. The bale is raised to eye level, and the operator does not have to bend and stoop to fasten the ties. He can more easily see what he is doing and can make a better, more uniform bale with less fatigue to himself.



Cook P&N 100" face WASHER

allows single or double stranding without rethreading

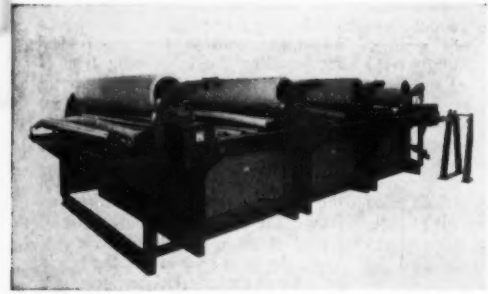


Cook Open Width Washer 8812–1 for highest efficiency with minimum water consumption. Strong stainless steel construction. Accessible. Easy to clean boxes.

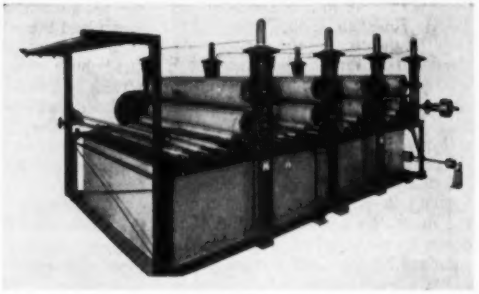
This Cook style D 100" face Washer 5786–1 is designed for rigidity and convenience of operation. Fabricated steel throughout and supported by I beams running across the machine making the complete machine one integral unit. Tanks are of stainless steel designed to be removed from the machine without disassembling any other part. Guide rolls are skyed for more complete washing. Preceding each nip is a single and a double expander preceded by an adjustable roll which allows single or double stranding without rethreading.

All Cook machinery is fabricated in our own shops allowing design flexibility *without* premium cost. Stainless steel fabrication eliminates broken castings and factory-made repair parts. All machines are guaranteed to perform as specified.

Your request for information will receive prompt attention.



COOK 100" Face Washer 8856-1 is strong without excessive weight. Tanks made to fit your usage. Completely equipped with self-aligning ball bearings. Weight and lever, pneumatic or micro set pressure available. Side shaft drive shown; others are arranged with individual nip drive. Made in all widths.



COOK Crabbing Machine 6401-2 or Washer with stainless steel tanks supported by rigid frame of stainless steel which also mounts the guide rolls, squeeze rolls, tension device and roll-up. Two to ten tank machines for widths of fabrics. Each tank has four immersion rolls running in rubber or graphalloy bearings.

COOK-P&N MACHINE CO., INC., 365 Dorchester Ave., Boston 27, Mass.

Pointers FOR SUPERVISORS

How the Management Team Can Build Better Human Relations

You Can Make CHANGES ACCEPTABLE To Employees

▶ Resistance to change can be a problem in labor relations. But if you recognize what causes it and work to overcome it, you can sell your men on new methods and procedures. Here are some suggestions for turning resistance into cooperation.

By JAMES E. GARDNER
Assistant Director of Personnel Research, Fieldcrest Mills

ALTHOUGH WE HAVE BEGUN to recognize the basis for worker resistance to change, the solutions are still very hard to come by.

Selekman, in a penetrating article appearing in the *Harvard Business Review* in 1945, described resistance to change as worker reaction to threats to "personal security systems." Resistance, in one form or another, develops when aspects of this security system—workmanship or skill, compensation, and interpersonal relations—are threatened.

From time to time various means have been proposed by which this resistance might be avoided, overcome, or minimized. Among the recommended practices are:

Joint planning of the change or aspects of the change where feasible.

Prior consultation with affected employees.

Explanation of the change and the necessity for it along with a frank statement of its effects and assurance that all possible consideration will be given to employee interests.

Planning of the change in such a way as to minimize the disruption of established interpersonal relations.

Providing the means for establishment of new work teams satisfactory to employees when the old relationships are disrupted. As an example, we know of one situation where a change in work method split up an operation, formerly performed in its entirety by individual employees, into smaller operations performed by teams of three employees each. Although much resistance was anticipated, it failed to develop when the employees were permitted to choose their own partners to make up the three-worker teams.

Unfortunately, these methods are often difficult to carry out to begin with. They may appear to a foreman to be somewhat intangible and, at best, experimental. What may work in one situation may not work out in another situation.

In addition, it is a discouraging fact that, despite careful introduction, resistance sometimes develops against even a minor change that appears to be no substantial threat to employee feelings of security.

So the foreman may throw up his hands and conclude that resistance to change, like death and taxation, is a sure and inevitable thing. And he may decide just to wait it out.

The danger in this point of view is that it can serve as a convenient excuse for not doing a few of the obvious common-sense things that may ease the impact of change on employees. It is the intent of this article to point out two of these rather ordinary things that are often overlooked in the blind acceptance of resistance as an inevitable occurrence.

Let's assume a change of layout or work method is being made. Let's further assume that the change, at least in the foreman's opinion, is of obvious benefit to his employees. Resistance develops. Why?

Aside from the possibility that what is obvious to the foreman may not be obvious to his employees, here are two other possibilities:

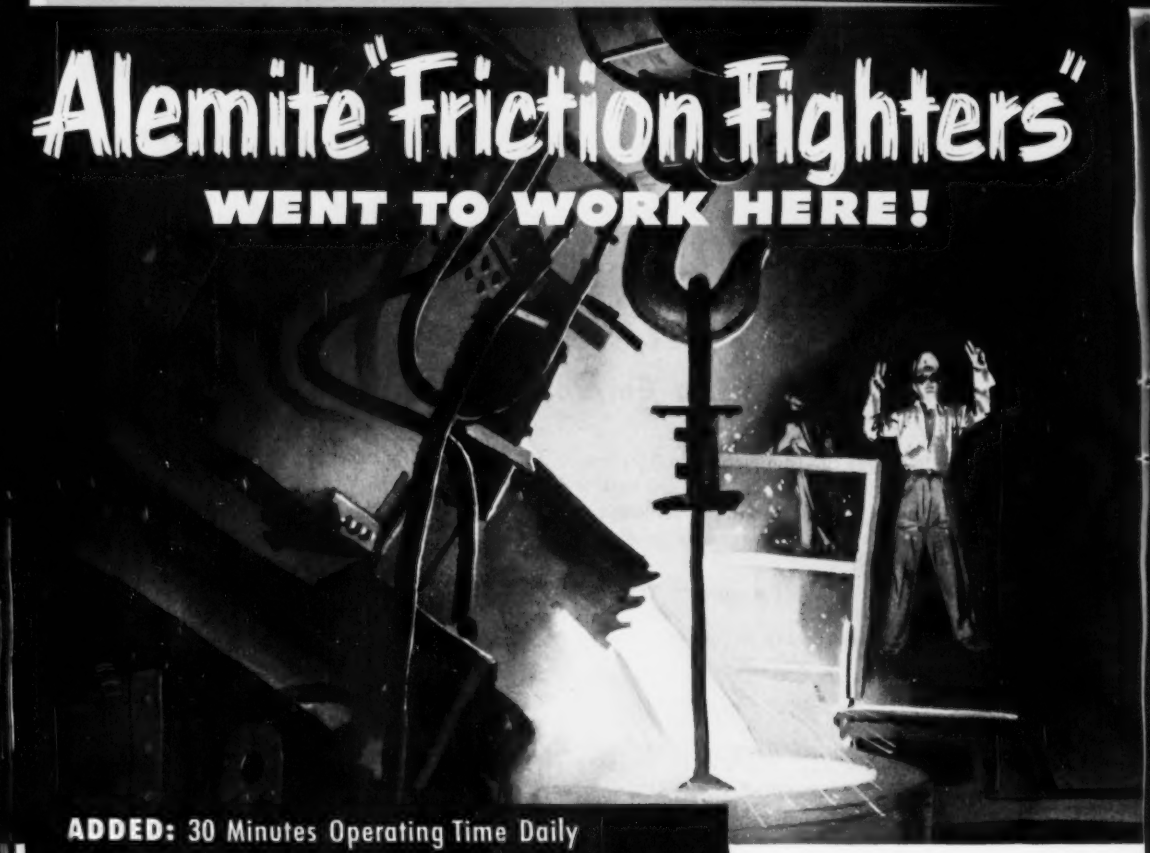
1. The conditions accompanying the change may not be cleared up. Or some irritating conditions may have carried over from the pre-change situation. These conditions may involve flow of work, condition of work, distribution of work, space, lighting, machine maintenance, availability of supplies, etc. Employees are neither blind nor stupid. They are not inclined to accept readily a change that is obviously not working out smoothly. The lesson here is that both the change and its surrounding conditions should be worked out so that holdups and irritations are kept to a minimum. If these things cannot be worked out before the change, they should be attended to as early as possible.

2. If the change requires resetting of piece rates, the rate should not be set until some stability has been achieved in the change and its surrounding conditions. Some changes carry with them temporarily a number of erratic conditions or situations that employees can justifiably claim as not having shown up when the "premature" studies were made.

The idea that the only way to get production up after a change is to rush in with a rate is often an erroneous and occasionally a dangerous idea. On the other hand, the rate should not be delayed too long because it will then become, in itself, a difficult change to adjust to.

To sum up, foremen can take a few straightforward steps to minimize resistance to certain types of changes. These steps are to eliminate irritating conditions accompanying the change and to avoid slapping on a new piece rate before the change and its conditions have had time to jell.

Alemite "Friction Fighters" WENT TO WORK HERE!



ADDED: 30 Minutes Operating Time Daily

ELIMINATED: Bearing Repairs and Oiling Hazards

SAVED: A Total of $2000 Every Year

It Happened in Harrisburg, in a steel plant* where a mammoth traveling crane was required to carry 25 ton loads, make fast stops, quick returns and was under constant threat of friction's wear and tear. To protect it, a variety of lubrication methods were tried and adopted. All proved costly . . . dangerous . . . ineffective.

Then, a trained Alemite "Friction Fighting" specialist was called in to work with the plant engineers. After careful study, an Alemite Mechanized Lubrication System was installed and immediately began to effect savings four ways: 1. In adding 30 minutes additional productive use of the crane daily—valued in cash at $9.00 a day and over $2000.00 per year. 2. Savings of 60% in the amount of grease used. 3. Saving in bearing repairs—none required since the Alemite System was installed. 4. Oiling hazard—completely removed.

You Can Get Similar Results! No matter what size or type of plant you operate, an Alemite Lubrication Engineer can show you dozens of ways of making worthwhile savings through more efficient handling of petroleum products. These are facts which you can readily confirm in your own time studies. The Alemite man will cooperate fully with your plant engineers in setting up a test. Contact your local Alemite Industrial Distributor, or mail coupon below—today!

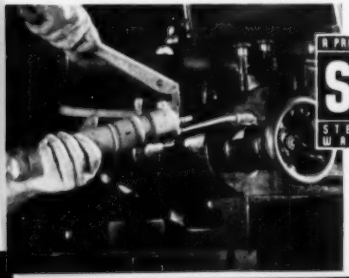
*Name on request

ALEMITE

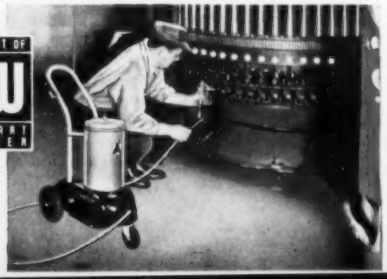
MEANS EVERYTHING FOR LUBRICATION

1. Methods 2. Lubricants 3. Equipment

Combining strength with light weight, Alemite hand guns assure powerful, volume delivery of lubricant—with less work, in less time!



The most complete line in industry. Alemite power guns are compact, easily maneuvered. Bring the efficiency of power lubrication throughout the plant.



A PRODUCT OF SW STEWART WARNER

FREE! New Booklet

Please send me:

☐ "11 Ways to Cut Production Costs."

☐ Include Facts on OIL-MIST—the amazing new system that atomizes oil, circulates it to bearings under pressure.

ALEMITE, Dept. J-22
1850 Diversey Parkway, Chicago 14, Illinois

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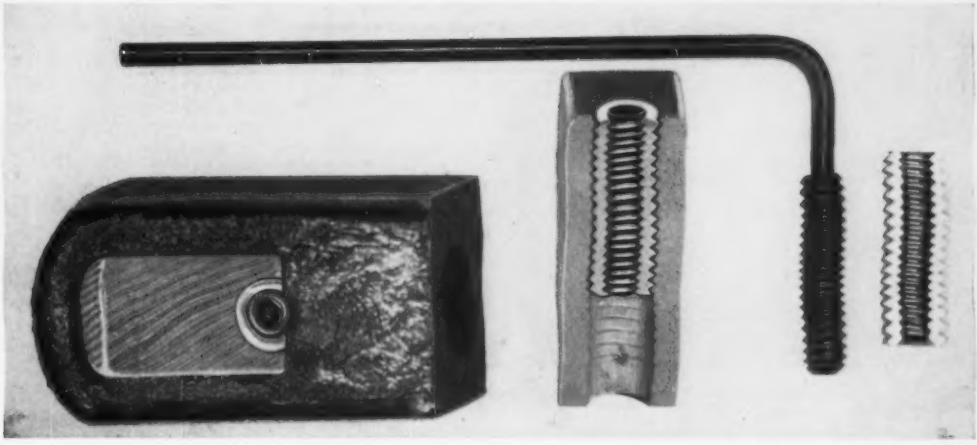
TEXTILE Equipment NEWS

Picker Holder Permits Parallel Adjustments, Eliminates Screws



THESE PARTS, when assembled as shown at left, permit infinite picker adjustments and prolong picker-stick life by eliminating screws.

Here's a gadget that will keep your loomfixers from getting gray hairs trying to make minute up or down adjustments of pickers on screw-hole-riddled picker sticks. The device, which eliminates putting screws through the picker and into the stick, is offered by Hardwood Mfg. Co., Greenville, S. C.

Essentially it consists of a half-round, hollow setscrew, threaded inside or out, that is screwed into a threaded hole in the picker stick. Prethreaded sticks are available from Hardwood at no extra cost.

The rubber or leather picker goes on the stick next, in the normal manner. Then an Allen-type setscrew is screwed into the first fitting. In going in, the male fitting cuts its own threads in the picker. When the male fitting is all the way in, the picker can be adjusted up or down any part of an inch to make it parallel.

Because screws are eliminated, the life of the picker stick is said to be lengthened. The holder can be removed from sticks when they break and inserted in new sticks, the company states.

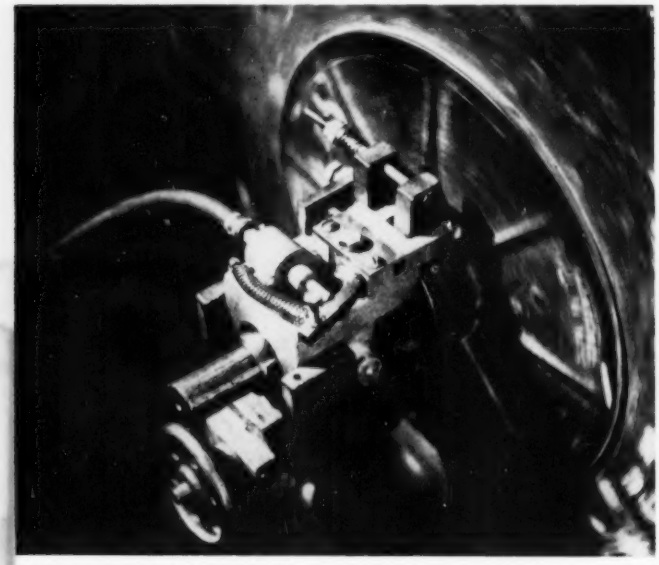
Beam Brake for Slasher Creels Eliminates Waste

A new beam brake for cotton slasher creels, recently developed by Deering, Milliken Research Trust, that provides improved yarn-tension control and minimizes run-out waste is now available from Cocker Machine & Foundry Co., Gastonia, N. C. (patent pending).

Extensive tests of these brakes have been run at one of the cotton mills in the Deering, Milliken group. Use of the brakes is said to virtually eliminate the expensive run-out waste that usually results from uncertain tension control. The new device replaces the rope-and-weight arrangement currently used in most slasher-creel operations and does so without independently driving each beam in the creel.

The desirable performance characteristics have been obtained by providing for each beam a simple but mechanically sound and reliable brake and needle-bearing assembly. A compact air cylinder holds out of operation a spring that operates the brake, allowing the beams to turn and the yarn to run smoothly from them with a minimum of tension while the slasher is up to speed. A solenoid-operated air valve is employed to exhaust the cylinder when the slasher is stopped or slowed to creep speed, thereby bringing the spring into operation and applying a braking torque. The mechanism incorporates means

for "fail-safe" operation to insure against yarn waste or machine downtime in the event of failure of either the power or air supply.



DECREASED WASTE ALONE that results from use of this section-beam brake is said to amortize the cost in under 2 yr.

The brake is adapted to provide two levels of tension. While the beam set and slasher are running at normal speeds, a minimum of tension is maintained on the yarns.

On the other hand, whenever the operator is required to stop or to slow down the slasher, sufficient additional braking is automatically applied to decelerate the revolving beams and to keep them from over running. When the slasher-control lever is shifted to allow the slasher to resume normal running speed, the braking torque is automatically reduced; and the yarn again runs in the desirable low-tension condition. This automatic addition and removal of supplemental braking torque is applied evenly and simultaneously at all beams and permits the yarn tension to be uniform from beam to beam. This uniformity is a major factor in making all the beams in the set run at practically the same time so that excessive waste on the back beams can be eliminated.

Aside from the intangible savings obtained through better yarn tension control, analyses of savings realized in decreased yarn waste alone show that the cost of equipping a creel with the new brakes can be paid for in less than two years' operation, the manufacturer says.

Oil Streaks Erased From Fabrics

TO REMOVE OIL SPOTS, simply rub with this eraser, which powders off, then brush off the powder.

Oil spots and streaks and other stains on fabric can literally be "brushed off" with this new spot eraser available from Aeroxon Sales Co., 130 W. 42nd St., New York 36, N. Y. The eraser, already in use in several textile mills, is made of fine, harmless, but efficient chemicals compressed into a solid that is then blown full of air bubbles to permit rapid fragmentation on contact when rubbed on cloth. The powder residue absorbs the stain and removes it when it is rubbed off. Pocket-size eraser costs $17.28 per gross. Large household and industrial size costs $43.20 per gross.

Improved Multi-Purpose Grease Available

An improved multi-purpose grease for use in general industrial applications—Texaco Multifak grease—has been introduced by The Texas Co., 135 E. 42nd St., New York, N. Y. The grease is recommended for use in situations that require one high-grade multi-purpose grease for a variety of operations.

The grease is said to have excellent shear stability, outstanding resistance against water washing, and good pumpability at low temperatures. It is highly suitable for bearing lubrication over a wide range of temperatures and can be used efficiently for an extensive variety of industrial-lubrication jobs.

Portable Lift Truck Has Half-Ton Capacity

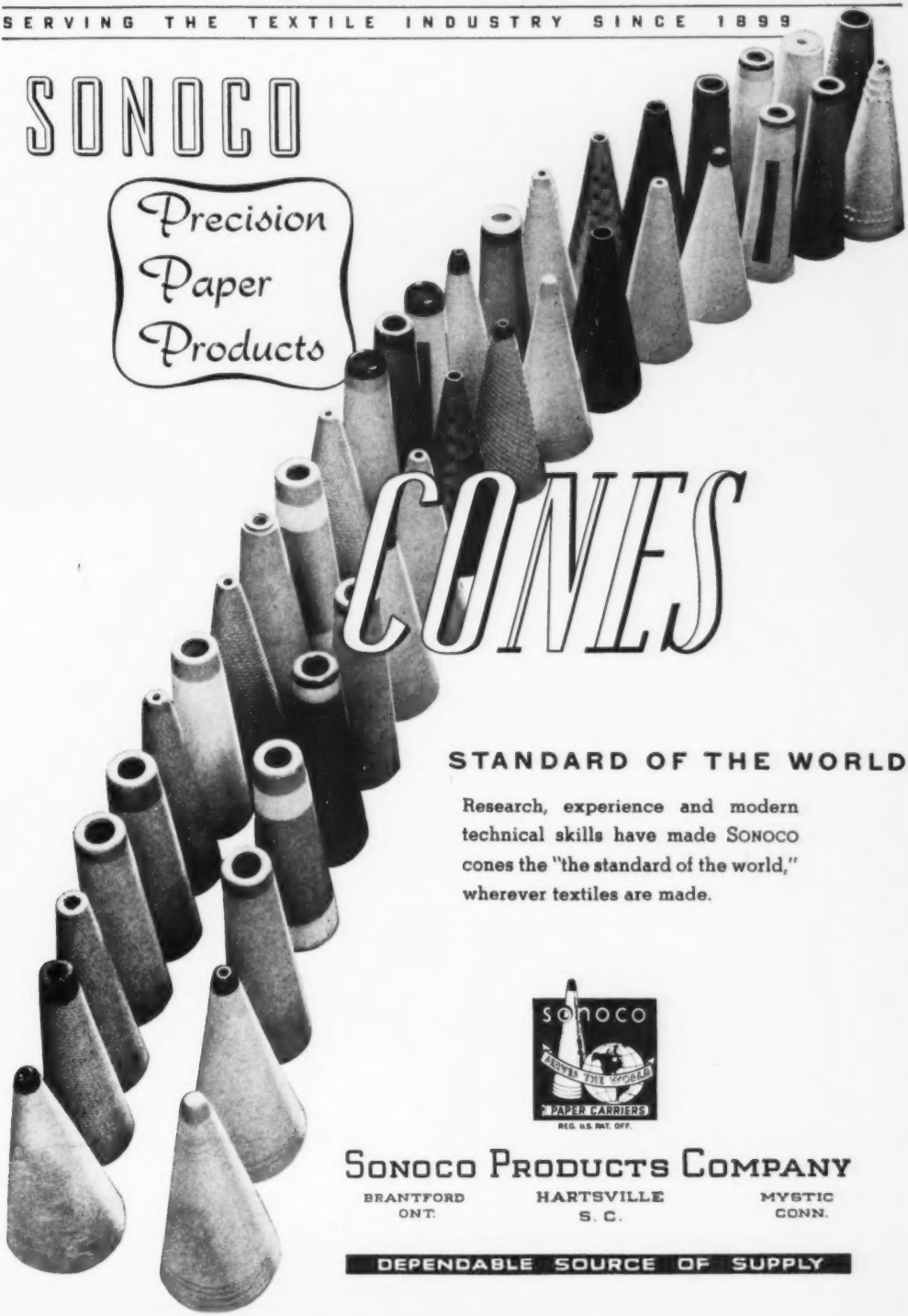
THE NEWTON HYDRATRUCK, a light, easily maneuverable lift truck that will raise or lower loads of one-half ton up to 5 ft. in less than a minute is available from Ginsberg Machine Co., Inc., 224 Fifth Ave., New York, N. Y. Units are equipped with either a hydraulic power pump or a hand pump or both. A ¾-hp. motor is required to operate the hydraulic pump.

The unit is recommended for medium-weight lifting and hauling around the mill.

SERVING THE TEXTILE INDUSTRY SINCE 1899

SONOCO

Precision Paper Products



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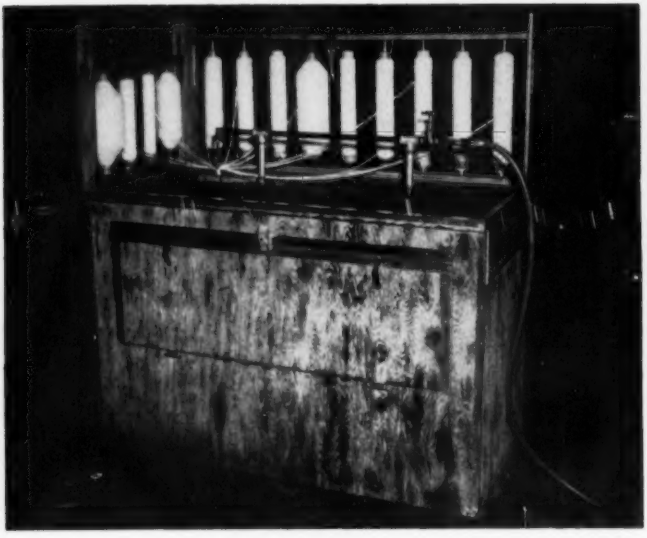
DEPENDABLE SOURCE OF SUPPLY

TEXTILE *Equipment* NEWS

Roving Bobbins Stripped by Air Pressure

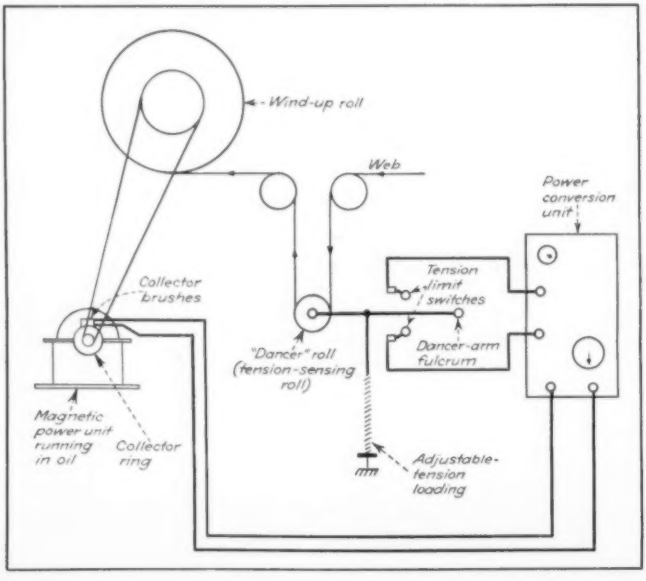


ROVING IS STRIPPED from roving bobbins by air pressure in this "Roving Disintegrator" developed by C. C. Sumner, Box 172, West Hillsboro, N. C. Roving bobbins are mounted on skewers in a creel at the end of the portable box shown above. The box is then rolled to an air-hose outlet. When the air valve is opened, roving is automatically unwound from the bobbins by the air pressure. As the roving is blown into the box, individual fibers are separated. The staple of the fiber is undamaged, and waste that falls into the box can be placed directly into the picker. Use of sharp knives or razor blades is completely eliminated.

Device Improves Welt Transfer

PERFECT TRANSFER OF THE WELT is said to be assured by a new attachment for seamfree nylon-hosiery machines made by Scott & Williams, 350 5th Ave., New York 1, N. Y. The new mechanism lifts the latches slightly away from the needle shanks as the needles are drawn down at the throat plate after taking the loops from the transfer jacks. This movement prevents the stitches below the latches from getting back into the needle hooks to cause an uneven transfer line. The resulting uniformity of the loops adds greatly to the appearance of the finished stocking.

Wind-Up Tension Control Holds Speed and Tension Constant



YARN OR FABRIC can be wound or unwound at constant tension or speed by this electronic unit.

A new tension control for winding or unwinding yarn or fabric that maintains constant speed and tension has been developed by Cadgene Machinery Co., Inc., 5th Ave. and McLean Blvd., Paterson, N. J. The tension control consists of a loop of fabric or yarn passing over two rollers and around a third on the end of the lever called a dancer arm. Tension is applied to the dancer arm by means of an adjustable spring or weight, or combination of both, and transmitted to the loop by the dancer-arm roller.

As the dancer-arm is forced up by the yarn or fabric, it actuates a voltage control that automatically makes intermittent corrections required to maintain the tension for which the unit is set. All "hunting" can be eliminated. Corrections are intermittent, and few small corrections are made on each roll.

An adjusted value of low-voltage

Metallurgically Sound

Textile Spring-Beard Needles are sound — right up to the surface. We start with a special steel formula, then with superior tempering and scientific controls — automatic and electronic — produce exactly the right combination of strength and flexibility for the job a needle must do.

Metallurgical soundness is one of the many advantages you get in Textile Spring-Beard Needles. You get bigger profits in longer-lasting needles and better hosiery fabrics.

TEXTILE MACHINE WORKS, READING, PENNA.

Textile

SPRING-BEARD NEEDLES

For Full-Fashioned Knitting

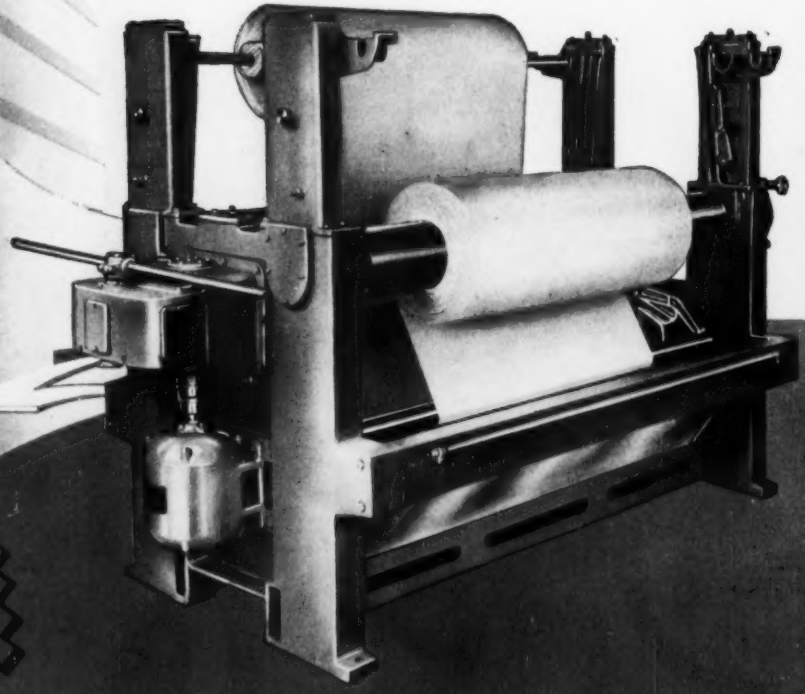
For Tricot Knitting

 For more information, write direct or use Reader Service post card.

Engineered for the Future

A modern skyscraper must be designed for long years of future usefulness. It takes engineering talent of the first rank to design for the future—in textile processing equipment as well as in skyscraper construction. This is particularly true today because of the rapid growth in the use of the newer man-made fibers.

Van Vlaanderen, with fifty years of experience in textile processing machine design, is engineering for the future as well as for today. The versatile heavy-duty Type 888 Jig shown, embodies advanced features that will make it the standard of value for years to come.



OUR 50TH YEAR

VAN VLAANDEREN

Van Vlaanderen Machine Company, 370 Straight Street, Paterson 3, New Jersey, U.S.A.

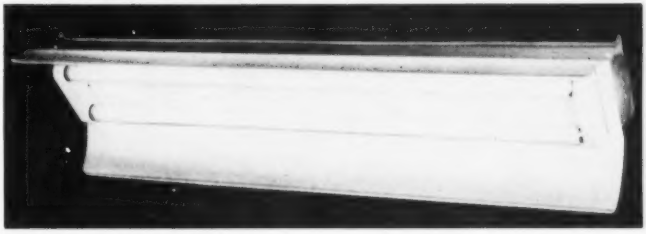
Southern Representative: Parrott and Ballentine, 610 South Carolina Bank Building, Greenville, S. C.

World's largest manufacturer of machinery for processing modern fabrics

d.c. current is fed into an oil-immersed electro-magnetic brake or clutch, depending whether it is applied on a wind-up. The oil shear provides the light tension, while friction is used for heavy duty. Oil also provides the cooling medium, and therefore the friction coefficient remains the same. In a continuous-web machine, no changes have to be made unless the product or the tension on the product requires a change. Such adjustments can be made before or after studying the machine. Applications without dancer-rolls, where tacky materials are being handled, are also possible, the manufacturer asserts.

The device is suitable for high or low-speed operation. Tensions are adjustable from zero to several pounds per inch of web width. Suitable sizes of the device are available for tensions requiring torques up to 1,800 ft. lb.

Fluorescent Fixtures Are Rust-Resistant



HIGH RESISTANCE TO OXIDATION in installations where high humidity prevails is a feature of this new line of lighting fixtures.

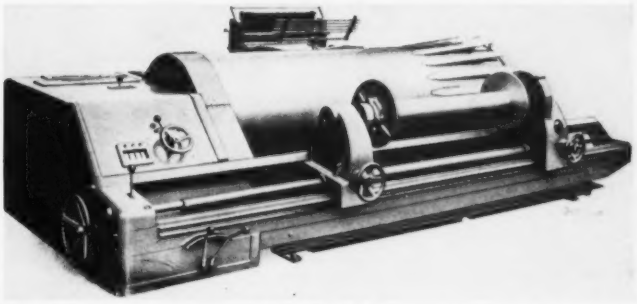
Mill men should like the rust-inhibiting treatment that has been applied to all parts of a new line of industrial-lighting fixtures developed by Gibson Mfg. Co., Atlanta, Ga. After treatment against oxidation, the fixtures have been assembled with cadmium-plated screws and finished individually with two coats of hot-bonded, high-baked enamel.

The fixtures have been designed and produced to give uniform illumination to all surfaces within the arc of the reflector, plus excellent shielding. The reflector is formed in a parabola with the outside lamps at the center of the curvature to provide maximum uniformity of down-light over the working area. A longitudinal shield for greater lateral shielding is available for the fixtures.

The units are adaptable to all types of mounting. End panels completely cover the edge of the wire-way channel and are provided with ¾- and 1-in. conduit knockouts.

The line includes models in 4-, 5-, and 8-ft. conventional types for bi-pin lamps, and 4-, 6-, and 8-ft. mono-pin slimline lamps. Several series of fixtures with varying features are available. Components are ETL approved, and fixtures meet RLM requirements.

High-Speed Sectional Warper Developed Abroad



SECTIONAL WARPER has small drum that holds more yarn than one twice its size.

Speeds from 27 to 875 yd. per min. are claimed for the new sectional warper made by Benninger Engineering Co. Ltd., Uzwil, St. Gall, Switzerland.

The unit is built low to give free passage to the yarn as it is taken from the reed to the drum surface. The guide reed is placed close to the drum to insure even spacing of the warp ends as the section is wound. These improvements, together with improved lease rods and lease reeds, are said to insure high speeds without damaged or crossed ends.

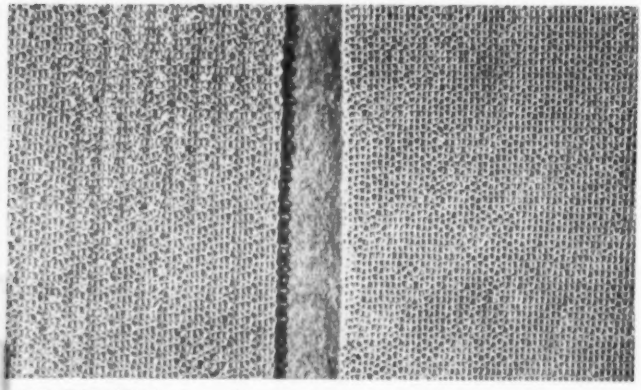
Drum of the warper is dull yellow for maximum yarn visibility. Correct elevation of the cones on the warping drum is said to be assured by instruments on the headstock and an automatic locking device.

Drum circumference is 8 ft. 2¼ in., but it is claimed that the drum will take nearly as much yarn as one twice its size. Also, the guide reed can be brought up much closer without the use of guide rollers. Other advantages of the small drum are convenience in operation, minimum space, and improved visibility.

Two variable-speed ranges have a ratio of 1 to 6, with speeds of 27 to 164 and/or 148 to 875 yd. per min.

The warper is made in three types for (1) silk, rayon, and cotton; (2) worsteds and woolens; and (3) warp knitting.

Varied Stitch Length Improves Hosiery Elasticity



A NEW ELASTICITY has been achieved in the welts of seam-free nylon stockings by a new attachment for the 400-needle nylon-hosiery machines made by Scott & Williams, Inc., 350 5th Ave., New York 1, N. Y. This new attachment lowers and raises the left stitch cam to lengthen the stitches in every alternate course or in every fourth course. These lengthened stitches provide a stretch to the fabric that makes for a closer fit to the leg without additional tension. Besides increasing the stretch, the welt is improved in appearance by the suggestion of a regular pattern in the knit.

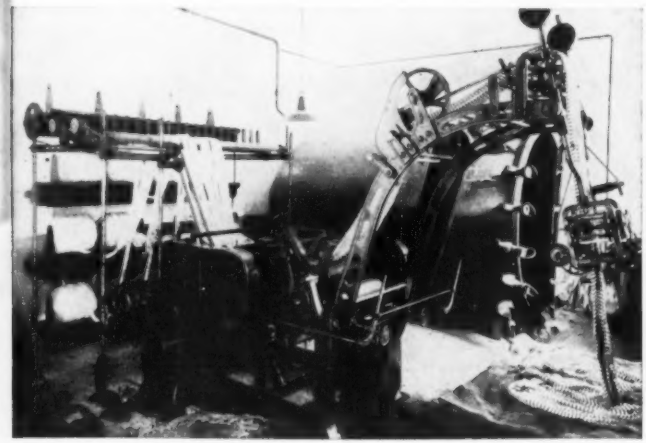
pH Indicator, Vacuum-Tube Voltmeter Are Line Operated

A new line-operated pH indicator and vacuum-tube voltmeter, developed by Leeds & Northrup, 4934 Stenton Ave., Philadelphia 44, Pa., is unaffected by normal fluctuations in line voltage or by zero drift of the amplifier. A converter-type instrument, its circuit employs d.c. to a.c. conversion, a.c. amplification, and conversion back to d.c. for voltage feedback.

Used as a pH indicator, the instrument reads directly in pH. It makes glass-electrode measurements to within ±0.02 pH on grounded or ungrounded solutions. A continuous pH 0 to 14 scale eliminates range changing.

As a vacuum-tube voltmeter, the new indicator can be used with any high- or low-impedence electrode system that develops potentials within the range of the instrument. External circuits have up to 2,000 megohms resistance. Current drain does not exceed one times 10^{-13} amp. at null balance. Four additional voltage scales of 0 to +700, 0 to −700, 0 to +1400 and 0 to −1,400 millivolts are available for redox, potential and polarized-current measurements.

Open Gill Box Does Vigoureux Printing on Combed Sliver



PERFECTLY BLENDED TINTED YARNS can be obtained without blending of colored tops by use of this Vigoureux-printing gill box.

A new machine for printing wool and synthetic tops and blends, combining a gill box and top-printing machine, has been developed by Officina Meccanica Sant' Andrea of Italy, and is available through Ernest L. Frankl Associates, 22 E. 40th St., New York, N. Y. This combination of a gill box and top-printing machine is known as a Vigoureux machine and incorporates an open gill box providing for perfect pin control as well as parallelization of the fibers, the company claims.

The gill head is equipped with normal back and front rolls, as well as gill fallers, and has the function of parallelizing and drawing out the fibers and conveying them in an even and parallel form to the printing rolls. The rolls are equipped with diagonal grooves that print parallel stripes under pressure. The dye is applied to the surface of the printing rolls by a hard-rubber roller covered with a special felt stocking. The roller is impregnated by a second rubber roller revolving in a dye.

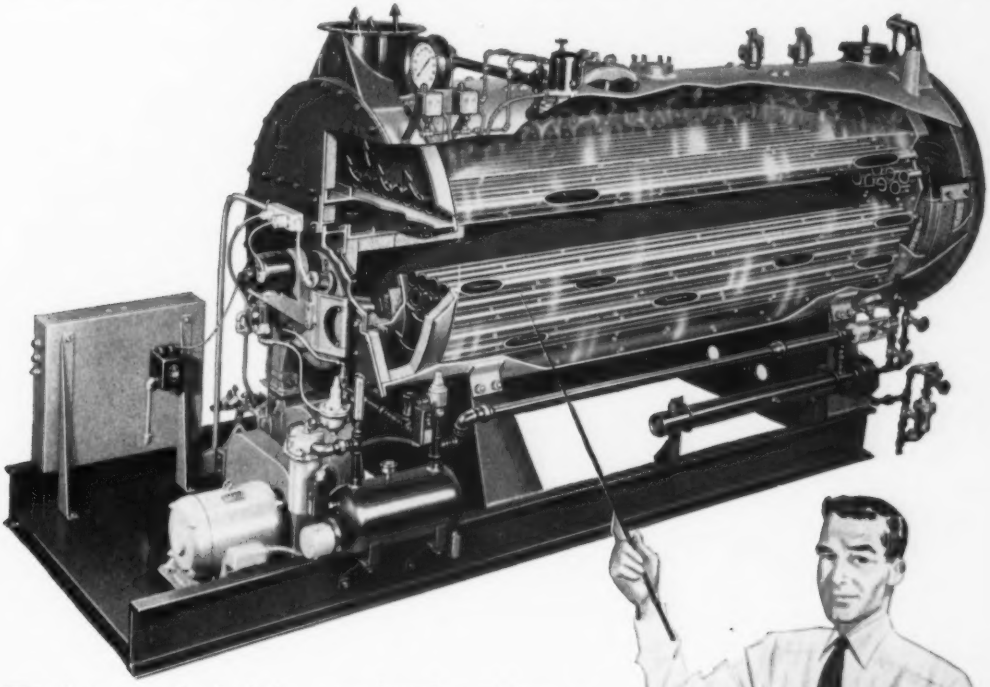
The arch-shaped supporting stand is attached to the delivery end of the machine where the dyed tops are allowed to dry, and from which they are conveyed over a folding device into baskets. Printed top is then put into an ager to allow the dye to set.

After backwashing, the printed top is then processed in a normal spinning operation, and the doublings on the preparing gill boxes and drawing frames permit distribution of the dyed fibers in the tops. Upon completion of the drawing, the slivers are said to have achieved a uniform tint, the shade of the tint varying in accordance with the number and width of the printed stripe.

CLEAVER-BROOKS STEAM BOILER

Four-Pass Construction

MEANS HIGH HEAT TRANSFER — GUARANTEED 80% EFFICIENCY



The basic reason for the high thermal efficiency and low fuel costs of Cleaver-Brooks Steam Boilers is graphically shown above.

Note the original and exclusive Cleaver-Brooks four pass construction of the boiler. The four complete passes of combustion gases traveling through the entire tube length of the boiler proper enables the boiler to absorb the greatest practicable amount of heat from the fuel burned.

All Cleaver-Brooks boilers are of the four pass design and the maximum useable heat is absorbed in these four passes before the combustion gases leave the boiler.

Cleaver-Brooks steam boilers offer many advantages . . . quick, effortless response to fluctuating steam demands — minimum manpower needed for operation and maintenance — clean — space saving — low cost installation — dependable performance — burns the fuel most available and most economical in your area — oil or gas.

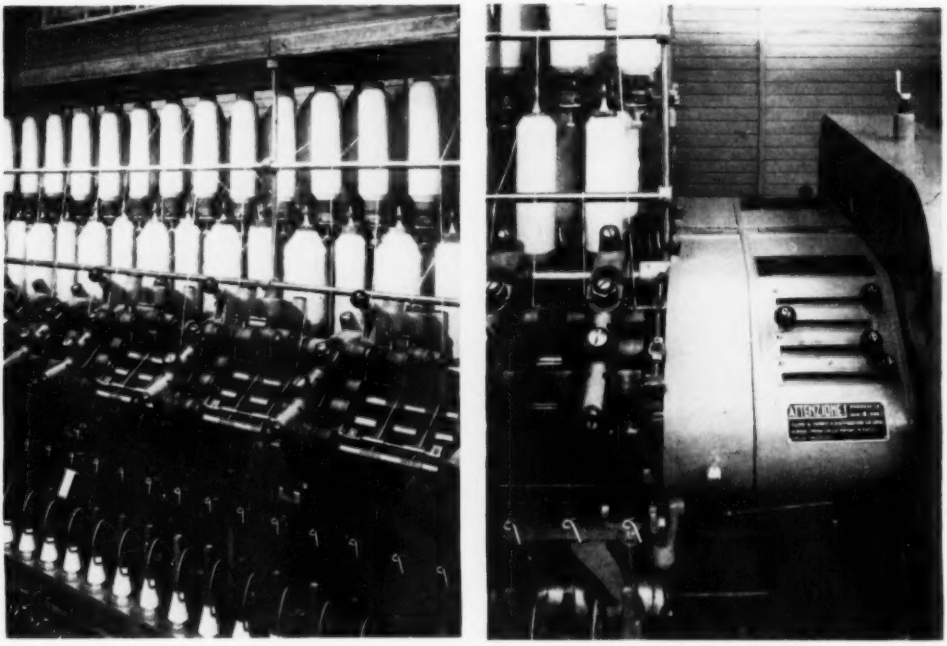
Remember the name Cleaver-Brooks, it stands for the first and finest in steam boilers. Standard models available in sizes from 15 to 500 HP, 15 to 250 psi, oil, gas, combination oil and gas firing.

CLEAVER-BROOKS COMPANY
Dept. B-360 E. Keefe Ave., Milwaukee 12, Wis.
Builders of Equipment for the Generation and Utilization of Heat • Steam Boilers • Oil and Bitumen Tank-Car Heaters • Distillation Equipment • Oil and Gas-Fired Conversion Burners

Write for your copy of the latest illustrated Cleaver-Brooks Boiler Catalog. It tells and shows why Cleaver-Brooks Boilers will save you money.

 For more information, write direct or use Reader Service post card.

Italian Cotton-Spinning Frame Available in U. S.



SPRING-WEIGHTED ROLLS *of the LeBlan-Roth long-draft system (left) are one feature of the cotton-spinning frame made by Nazionale Cogne,* of Italy, now available in the U. S. and Canada from Stellite American Corp., 60 E. 42nd St., New York 17, N. Y. Other features are draft-gear box in an oil bath that permits draft changes by moving a lever (right), adjustable pigtail guide said to maintain nearly constant balloon and pressure, and a drive in both headstocks. Gauges available range from 2½-in. gauge, 1½-in. ring diameter, to 4-in. gauge, 2½-ring diameter. A twisting frame is also available.

Motor-Control Center Has Improved Features

WIRING IS SIMPLIFIED by use of a 4-in. vertical trough. No "fishing" is necessary.

A new motor-control center for use wherever two or more a.c. motors (up to 200-hp., 600-v.) are controlled from a central location has been announced by Control Dept., General Electric Co., Schenectady 5, N. Y.

The new center is pre-engineered, factory-wired, and assembled, and employs many standard components and accessories. According to GE engineers, it provides a simplified method of installing and servicing in a central location a.c. combination motor starters in NEMA sizes 1 through 5, as well as lighting panels and associated equipment for a group of motors.

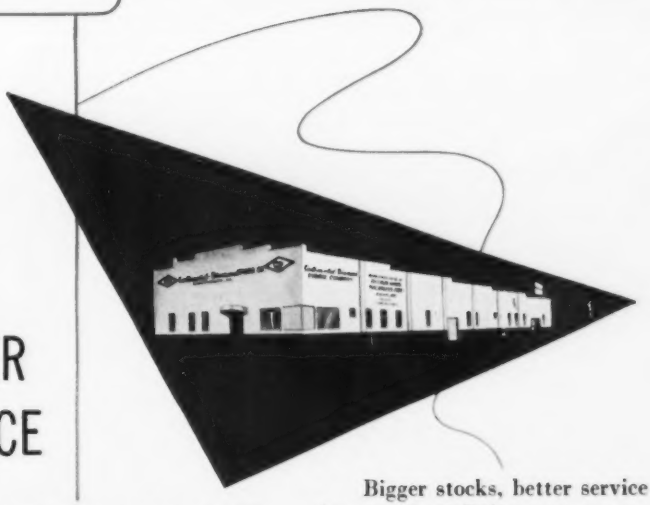
The center is designed to withstand short-circuit stresses up to 25,000 amp., substantiated by certified laboratory tests. Its sections, each measuring 20 in. deep, 20 in. wide, and 90 in. high, join together to form a strong, free-standing, completely dead-front, NEMA I, enclosed, control assembly.

One of the main features of the new design, it was pointed out, is a 4-in. vertical trough (with cable supports) that runs the full length of each section, providing ample space for wiring. No "threading through" or "fishing" is necessary because metal barriers that separate the starter units are easily removed, leaving a continuous wiring trough.

Inspection and servicing of the starter units is simplified because the units are easily removable. All components, including pilot devices, are mounted on a lightweight unit frame. Starter-unit replacement is facilitated by positive-action positioning guides that insure correct alignment of the starter to the vertical bus. To protect personnel, a full-length metal barrier separates the bus compartment from the starter units.

Units may be installed from the front or rear of the section and are designed in even multiples of 14 (height of NEMA size 1 and 2 is 14 in.).

NOW FOR BETTER SERVICE



A NEW C-D-F PLANT! *at Spartanburg, S.C.*

Bigger stocks, better service from a big C-D-F warehouse at Spartanburg, S.C. Here's where you get prompt deliveries, practical advice on all the C-D-F plastics designed for the textile industries. Make C-D-F Spartanburg your friendly source of supply . . . pay us a visit . . . there's plenty *new to see* at C-D-F!

CELORON—for silent gears!
A light, resilient plastic, easily cut into gears that stay silent and absorb vibration. Our f-a-s-t service, from big stocks of blanks, saves your time and money.

ROVING CANS—really smooth!
The famous C-D-F seamless kind. No top sway. Surfaces will not crack, chip, or soften. C-D-F Spartanburg has the answer to your materials handling problem.

LOOM PARTS—all non-metallic!
Fibre bushings, washers, binder pins. *Fibre* cloth roll bearing blocks. Knife guides. Use C-D-F fibre for low-cost, longer life.

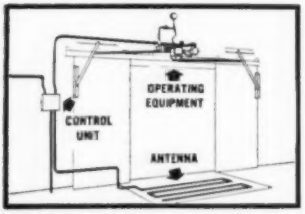
DILECTO—a versatile, tough laminate!
A stiff plastic that resists water and wear, is unaffected by steam and dyes. Easy to machine. Widely used in bobbins.

CDF

Continental-Diamond Fibre Company

GENERAL OFFICES: **NEWARK 55, DELAWARE**

Floor Antenna Operates Automatic Doors



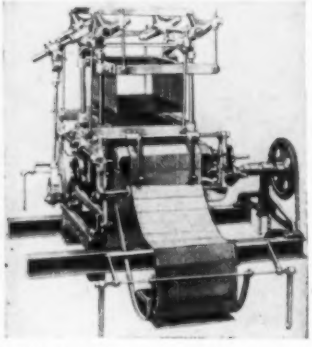
THE DOOR OPENS when a person or truck passes over the antenna and unbalances the electrical field. Timing of opening and closing is adjustable.

When you walk up to this door, it opens. The new MP electro-field automatic door operator, developed by National Pneumatic Co., 125 Armory St., Boston 19, Mass., has a balanced high-frequency electrical system with a floor-installed antenna. Unbalancing of the field by a person or truck passing over the antenna activates the operating equipment and opens the door.

The automatic door stays open to allow safe clearance, then closes automatically. Opening and closing are performed by air pressure, and timing is adjustable to suit a mill's individual needs.

The electro-field can control all types of sliding, swinging, or folding doors. It is pre-piped and pre-wired for easy installation.

Jacquard Head Has Several Improvements



GREASE FITTINGS on moving parts are one of several improvements made in this jacquard head.

An improved, double-lift, double-cylinder jacquard for cards in Vincenzi pitch has been developed by John T. Hardaker Ltd., Bradford, England.

The woodwork supporting the needles is assembled in the machine frame as a complete unit and can be adjusted as such, if necessary, to bring the needles in line with the special light-alloy faceplates that are fixed on slides on the machine sides.

A lighter but stronger structure has been adopted for the Griffe blocks that are fabricated from bright-steel bar. These blocks require less space and make a reduction in the total height of the machine.

To eliminate the possibility of the cards being turned by hand when the cylinder is presented to the needles, a clutch of special design is fitted. This clutch is also made so that no breakage will take place should the weaver not use care to see that it is in an engaged position. The hand reverse chain from the clutch down to the loom is arranged so that it is stationary when the loom is in motion.

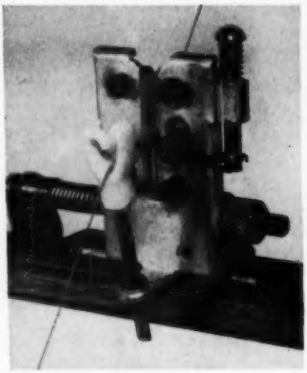
Machine-cut bevel gearing and a telescopic shaft are employed to drive from the clutch, which is on the main shaft, to the cylinder. A smooth motion and reduced drag on the cards are said to result.

The cylinder is adjustable in all directions. To make certain that the peg wheel and star wheel are properly geared together, they are both attached to the same bracket at fixed centers. Should any discrepancy arise due to wear, these centers can also be regulated by means of an eccentric stud supporting the peg wheel.

A small grease nipple for use with a grease gun has been provided for each moving part. Oil dripping onto the warp has been reduced to a minimum, it is said. The vertical slides are provided with an oil reservoir in the form of a felt washer housed in each bearing.

The two main bearings, where access is difficult, are fed by oil pipes from the top of the machine side. As a final safeguard against oil drip, trays are provided under the jacquard feet.

Thread Guide and Cleaner Easily Adjustable



CLEANER BLADES are adjustable to yarn size by means of gauges.

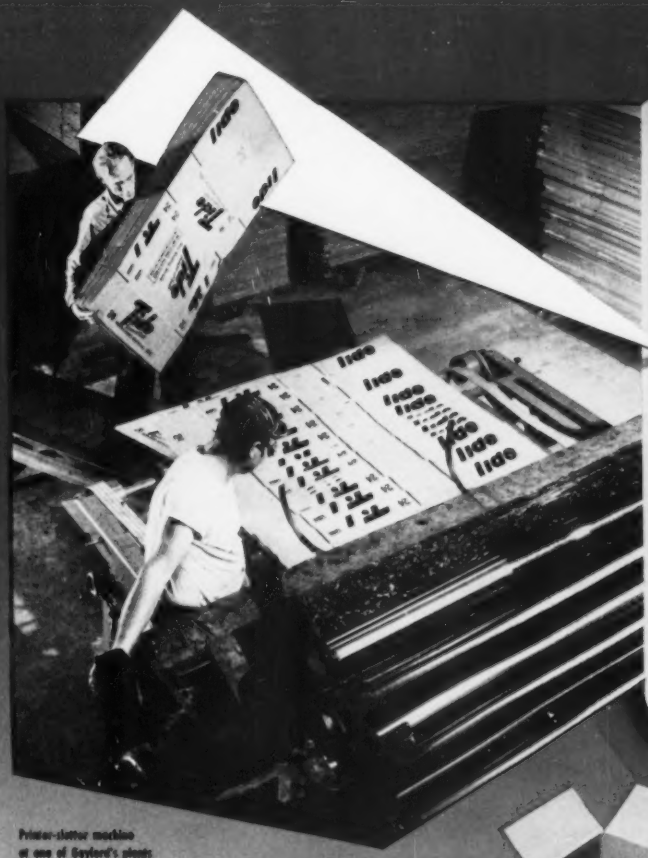
A new type combined thread guide and cleaner for use on all types of winding machines has been introduced by Manchester Metal Works Ltd., 368 Bury New Rd., Salford 7, Lancashire, England.

The operator can easily govern the passage of yarn from the supply package to the delivery package by the movement of a small knurled nut on the cleaner spindle. This adjustment insures the correct positioning of the yarn during winding.

The blades of the cleaner can be set accurately to any desired gap in a few seconds without removing or altering the position of the cleaner. To carry out the necessary changes for different types of yarn, two screws in the cleaner body are loosened by means of a special key provided. A plunger is depressed by the finger, and the gap gauge of the correct thickness of the yarn is inserted between the blades. The spring-loaded plunger is then released, and the blades close on the gauge. Screws are then tightened and the gauge is withdrawn. Sets of necessary gauges are supplied with the device. The blades can be locked in an open position if cleaning is not required.

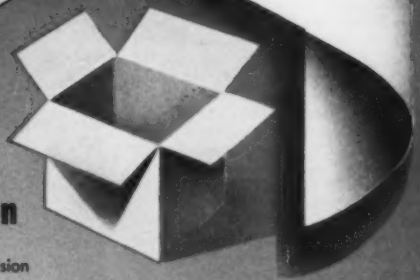
The hardened-steel blades of the cleaner section are reversible and can be adjusted for height, thus distributing the wear over all surfaces of the blades.

(*Continued on page 258*)



Printer-slotter machine at one of Gaylord's plants

it's the unseen quality that produces true economy in Gaylord Boxes



End of the Production Line... Start of Extra Product Protection

Off they come! And after a final check for precision cutting and accurate printing they're on the way.

Here is all the sturdiness and durability that modern science can provide in a shipping container.

Gaylord Boxes are designed and built to provide superior product protection... and they do just that — all the way!

Call your nearest Gaylord Sales Office for competent help in solving your packaging problems.

Gaylord Boxes

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CORRUGATED AND SOLID FIBRE BOXES
FOLDING CARTONS
KRAFT BAGS AND SACKS
KRAFT PAPER AND SPECIALTIES

NEW Dyes AND Chemicals

Marhen Process Permits Continuous Vat Dyeing

The Marhen process, a new method that makes possible continuous control of the application of high-quality vat dyes, has been developed by General Dyestuff Corp., 435 Hudson St., New York, N. Y.

The new method for vat dyeing provides an electronic control for the reduction potentials that govern the dyeing efficiency of the vat dyebath. D. E. Marnon and J. H. Hennessey of General Dyestuff Corp. research staff are inventors of the process.

Previous methods measured the amount of chemicals in a bath but did not measure the reduction potential. With the Marhen process, such measurements and precise formulas are now available, and the continuous control of a vat-dye bath is possible. The dyer can readily measure and control the ability of a particular bath to do a specific job. Excessive amounts of caustic soda or sodium hydrosulfite can be avoided, with consequent important savings.

A considerable yardage has been dyed successfuly under the new control method in cooperation with some of the leading mills of the country.

Faulty dyeings, which were previously attributed to inadequate preparation of goods, have been found by the Marhen method to be the result of improper balance of chemicals. On correction of this balance, excellent dyeings have been obtained, and protection has been afforded for temperature-sensitive colors.

Previous to this development, the dyer has relied on such data as titrations of caustic soda and reduction-indicator papers. Titration of caustic in the vat-dyeing process is somewhat difficult and only indicates the quantity that has not yet reacted with the sodium hydrosulfite. Actually the dyer should know the amount that has reacted to generate reduction power. In this way, he knows the power of his bath. Reduction-indicator papers do measure the power of the bath to reduce the indicator dye, but, unfortunately, not the dye in the bath.

The Marhen method measures the reducing power in terms of electrons by utilizing suitable electrodes and measuring equipment. This reducing power is a function of chemicals and temperature; proper control of the bath may be exerted by manipulation of these variables. With proper consideration of the depth of shade to be used, the dyer may now prepare and maintain an efficient, economical dye bath.

The new method, for which patents have been applied for, will be made available free as a service to customers of General Dyestuff Corp. These benefits are claimed:

1. Uniformity and constant shade in high-quality dyeing.
2. Elimination of any doubt as to the end results in the many and varied vat-dye applications.
3. Savings in sodium hydrosulfite and caustic soda (both of which are sometimes in short supply). In one instance, the savings in hydrosulfite amounted to two-thirds of the amount usually required.
4. A better dye job is done in less time.
5. Dyeings of difficult constructions are now possible. Dyeings of at least one fabric of heavy construction, not heretofore accomplished, were reported by the inventors. (Reduced time required is of great value, particularly with heavy construction).
6. In the dyeing of certain shades, the new method revealed oxidation stains were due to an insufficient amount of sodium hydrosulfite.
7. Vat dyes have a general consumer acceptance as being of the highest quality with excellent fastness to both washing and light. Scientific control made possible by the Marhen process will enhance that reputation.

Fire Retardant Applicable to Fibers

MATTRESS COTTON and other textile fibers can be rendered fire-retardant with a new, durable agent developed by American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y. The new product, Pyroset, can be applied to mattress filling, ticking, mattress-pad filler, and covering.

Mildew Proofing and Water Repellency Applied in One Bath

Quindex W. R. 10%, new fungicide manufactured by Nuodex Products Co., Inc., Elizabeth, N. J., makes possible a one-bath treatment for textiles requiring both mildew resistance and water repellency.

This fungicide contains solubilized copper 8-quinolinolate and highly effective water repellents to meet a number of government specifications for webbing, cotton duck, twill, and other textiles used by the Army and Navy.

Besides giving optimum mildew resistance and excellent water repellency, Quindex W. R. 10% dilutes easily at room temperature and makes for a more uniform solution that stays more evenly dispersed than was possible with earlier forms of this compound. It is also said to assure "foolproof" control by textile proofers and finishers because the copper 8-quinolinolate content is standardized and no other copper compounds are used.

Anionic Filling Conditioner Is Anticorrosive

A new anionic filling conditioner, called Filkon, that is said to exhibit exceptional wetting characteristics in low concentrations in both acid and alkaline mediums has been developed by Borne, Scrymser Co., 632 So. Front St., Elizabeth, N. J. The agent is non-substantive toward any textile fiber, and is not subject to selective filtration during the conditioning operation. Filkon is anticorrosive, and will act as a corrosion inhibitor to protect conditioning machinery and bobbin rings.

The following table lists physical properties and pertinent data.

Physical Properties

Appearance	Viscous liquid
Color N.P.A.	7
% Active, min.	85
% Moisture, min.	5
Wght./gal. @ 80° F	9.5 to 9.6
Flash point ° F.	240
Fire point ° F.	265
Saybolt viscosity @ 210° F.	600 to 800
Solubility in water	complete

pH of Water Solution

1% Solution @ 77° F.	7.0 to 7.1
5% Solution @ 77° F.	7.3 to 7.4
10% Solution @ 77° F.	7.7 to 7.8

Wetting Time (Draves-Clarkson) in Seconds

Distilled water @ 77° F	
1.0% Filkon	1.2
0.75% Filkon	1.8
0.50% Filkon	2.0
0.25% Filkon	6.0

Surface-Tension Data (DuNouy Tensiometer)

1.0% in distilled water.	32.7 Dynes/cm
0.5% in distilled water.	33.4 Dynes/cm
0.25% in distilled water.	33.6 Dynes/cm

Filkon is said to work effectively on yarns when used in a 0.25% solution. Good results can be obtained with smaller concentrations, and quantities in excess of

(Continued on page 221)

Speaking of picking beauties—

take a look at this redhead!

This red-headed Dayton Super Picker consistently outlasts other makes—often by as much as 2 to 1! That longer life means less down-time, more cloth production. And because the Super Picker runs cooler, shuttles last longer.

Rounded front edges eliminate hanging filling . . . narrow back permits free non-wear on lay-in strap . . . flared bottom makes picker stick easier to apply. May be used on high-speed and standard speed looms.

Put the Super Picker to work on your looms—*prove* in your own mill that it will outpick any ordinary picker on the market! Ask your salesman, or: Dayton Rubber Co., Textile Div., Woodside Bldg., Greenville, S. C.

The Dayton Thorobred Picker performs with top efficiency at low cost. Patented symmetrical loop construction holds picker in correct contact position. Picker stick hole is designed for correct shuttle contact, eliminates striking at an angle.

Dayton Rubber

Since 1905

TEXTILE PRODUCTS FOR BETTER SPINNING AND WEAVING

 For more information, write direct or use Reader Service post card.

THIS IS NO. 91 OF A SERIES ON

GETTING THE MOST FROM TWISTING

Information about twisting designed to show improvements in twisting equipment and new ideas in the twisting operation

HEAVY-DUTY ROLLER BEARING SPINDLE
Model 10 Ring Twister

In keeping with the trend toward large-package twisting, more and more mills are having their new Model 10 Ring Twisters equipped with heavy-duty roller bearing spindles or are replacing plain-bearing spindles with this heavy-duty type.

This spindle was developed to meet higher speed requirements and more rigorous operating conditions. It gives maximum spindle efficiency when producing ring twister packages containing from one to two pounds of yarn.

Spindle Blade

The spindle blade is constructed from a special spindle steel which has the necessary hardness and toughness to meet the physical requirements demanded of a spindle.

The blade is hardened throughout, and a special heat-treating process is applied to the bearing surfaces. There are two such surfaces — upper and lower. The upper surface contacts the rollers of the roller bearing, and the lower surface seats in the lower spindle step bearing.

The blade is straightened mechanically to assure minimum eccentricity, and special care is taken throughout manufacture to protect the blade from damage through handling, thus assuring a product of the highest possible standards.

Finally, the spindle blade is given a smooth finish to remove any tool marks that might, through repeated donning and doffing, cause wear and enlarge the bobbin bore.

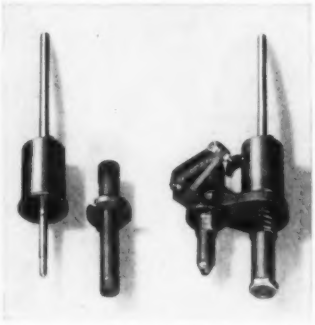


Fig. 1. Heavy-duty roller bearing spindle for Model 10 Ring Twister. Left to right: spindle blade and whorl, spindle step, spindle and swing assembly.

Spindle Whorl

The manufacturing processes through which the whorl passes assure maximum concentricity with the spindle blade. The bore and outside diameter of this cast-iron part are concentric to within .001 in., and the blade and whorl are assembled with a tapered force fit which results in locking the two parts together.

Spindle Step

The spindle step is cast-iron, machined to meet minimum runout specifications.

The upper bearing arrangement is the roller-type, housed in a hardened bolster which serves as an outer race for the roller bearing. The lower bearing is made from a bronze bearing material which minimizes wear on the bearing surface of the spindle.

The spindle step is mounted in the spindle swing by means of a compression spring and sleeve retained by a spindle nut and separated from it by a quality felt washer to isolate vibration.

A hardened pin pressed into the spindle swing engages with a slot in the spindle step and prevents the step from rotating within the swing.

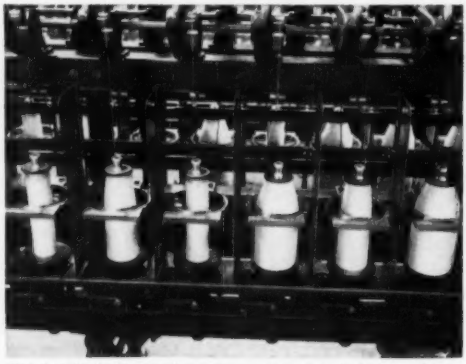


Fig. 2. 2-lb bobbins of single-end acetate being produced on a Model 10 Ring Twister equipped with heavy-duty roller bearing spindles.

23.1.4

February, 1952

WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

UNIVERSAL WINDING COMPANY

Atwood Division

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA CHICAGO LOS ANGELES MONTREAL and HAMILTON

LETTERS FROM OUR READERS

Address all communications to:

Editor, *Round Table*, TEXTILE WORLD

330 West 42nd Street, New York 36, N. Y.

Round Table

FILING-TABS REQUEST

Dear Editor:

The great number of articles in your excellent magazine makes it often very difficult for me to find a definite article, even though I use the index.

A Spanish textile journal, *Ingeniería Textil*, has a good idea that I would be glad if you would adopt. An issue has a section containing eight labels per page. These are printed with pertinent information on them for each feature article, such as title, subject matter, date of issue, and page number.

These labels can be cut out and pasted on file cards and filed away, alphabetically or otherwise, for future reference.

What would it take for you to institute such a service in your magazine? It is much needed.

ROBERTO ABELIS

Buenos Aires, Argentina

KENAF PRODUCTION

Dear Editor:

The United States is entirely dependent on India and Pakistan for its supply of burlap and jute. But jute production in those countries will continue to diminish because both India and Pakistan are converting their jute acreage to the growing of more food crops.

Because of the partition of India and Pakistan, political disturbances between the two countries have further jeopardized our jute supply. Also, American consumers are spending in India more than $100,000,000 a year in export taxes for the benefit of buying burlap.

Since becoming independent, India has raised this export tax from 1.5¢ a year to 9.8¢. And on November 1, 1951, Pakistan raised her export tax on raw jute from $30.24 to $53 a ton.

The United States needs about one billion yards of burlap and 200,000,000 lb. of jute per year, estimated to be worth more than $300,000,000 at current prices.

Consequently, during 1951 the Commodity Credit Corp. contracted to purchase about 200,000,000 lb. of home-grown kenaf fibers, a jute substitute, through a directive under the U. S. War Munitions Board. The fiber will be stockpiled as a strategic material.

While the entire kenaf crop is under contract to Commodity Credit Corp., the program is privately financed and is being handled by American Kenaf Fiber Corp., Palm Beach, Fla. The company is preparing land for planting 5,000 acres of kenaf in April this year, with production estimated about 15,000,000 lb. of fiber.

Are these facts not of some importance to the American textile industry?

HENRY C. SUTER

Daytona Beach, Fla.

ADVICE FOR 1952

Dear Editor:

Any textile-business preparedness plan for 1952 should include the following:

(1) Avoid extravagances that may be difficult to eliminate when severe competition makes it necessary to cut every operating cost to the bone.

(2) Avoid heavy debt, for with an increased demand for credit as normal times return, a heavy debt load may prove a nightmare.

(3) Take a breather on plant expansion. There will be plenty of idle floor space when the defense program is stabilized.

(4) Keep prepared for the civilian economy that is inevitable and that may come earlier than you think. See that your civilian product is right up to the minute, your sales force strong, your credit department efficient, and your labor relations the best possible.

(5) Keep an accurate check of your cash position from month to month. Remember that due to heavy taxes you need more of your gross dollars of earnings in cash than ever before.

(6) Keep your product in the public eye. Keep up your advertising, your merchandising plans and programs.

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*

"Wash your ears out, O'Malley!—I distinctly said I wanted to look over our NOILS!"

(7) Re-examine your method of inventory pricing, your business form, whether corporate, individual, or partnership. If you must borrow money, see to it that such borrowing has the least tax impact on your earnings.

(8) Be careful not to commit yourself on social benefits you cannot maintain in a highly competitive economy.

(9) In July or August this year, resurvey your whole situation. Remember if a change occurs in our government, the period from November to January will be mildly deflationary. There will be a hesitancy even if there is no governmental change; for spending will go on, but with no political urgency. Stick close to shore.

HENRY H. HEIMANN
Natl. Assn. of Credit Men
New York

COMMERCIAL ATOMIC ENERGY

Dear Editor:

Information comes from England that a system has been devised there to supply heat from an atomic pile to warm an 80-room building. Plans are going ahead to expand the system to heat many buildings from a central atomic plant.

This announcement from England may stir some curiosity here. We are proud of our free enterprise. Has our vaunted American ingenuity failed to develop a safe, efficient, and economical heating system from nuclear fission for lack of enterprise?

The fact is obvious that free enterprise does not exist in our dealing with atomic energy.

Many American inventors are not interested in developing new atomic inventions for civilian use because of stringent restrictions embodied in the atomic energy law. Our organization voiced vigorous opposition to these un-American patent provisions when the Atomic Energy bill was under consideration in Congress. Since then, David E. Lilienthal, former chairman of the Atomic Energy Commission, has published his view in support of this same opposition.

We have been sold on the idea that all of our atomic resources must, for the present, be devoted exclusively to the development of atomic weapons. Young scientists who have majored in nuclear fission have no choice but to work for the Government. Any new inventions they may develop will accrue only to the Atomic Energy Commission. The incentive to invent, as intended in our patent system, does not exist for them.

Certainly atomic weapons are important, but are they any less important to England than to the United States? Is the danger from our common potential enemy any less in England than here? Do our English cousins have more liberal patent provisions in their atomic energy law than we have in our country?

NATIONAL PATENT COUNCIL
Gary, Ind.

Test Your TEXTILE IQ

► **Each correct answer rates 10 points. A total of 70 is passing; 80, good; 90 excellent; 100—you're a genius! Keys to answers are on page 232.**

1. In mill lighting, recommended foot-candles at working level are
   a. 15 to 30 c. 40 to 60
   b. 25 to 50 d. 60 to 75
2. By checking with a Micronaire each bale of cotton it uses, and then blending by fiber fineness, Pepperell Mfg. Co. in a year's time reduced average neps per 100 sq.in. cloth from
   a. 106 to 90 c. 106 to 60
   b. 106 to 77 d. 106 to 51
3. The McCann pot spinning frame operates at
   a. 6,000 rpm. c. 10,500 rpm.
   b. 8,200 rpm. d. 14,000 rpm.
4. Emergency schedules may become necessary in Southern plants at odd times during the next two or three years because of a
   a. labor shortage c. motor shortage
   b. raw-material shortage d. power shortage
5. Bad start-ups on full-fashioned machines can be prevented by installing an electrical heating cable, thermostatically controlled, to the
   a. center beds c. catch bars
   b. needle bars d. sinker heads
6. Yarn variation was cut more than 25% at one North Carolina mill by equipping roving frames with
   a. synthetic-felt clearers c. ball-bearing front rolls
   b. aluminum flyers d. plastic skewers
7. Burlington Mills Corp. in 1951 spent $4,000,000 alone on
   a. new looms c. warehousing
   b. research and quality control d. chemicals
8. Improved Orlon dyeing has been obtained by use of
   a. glaubersalts c. acetate dyes
   b. vat dyes d. copper-dyeing methods
9. A revolutionary rayon-fabric finish to control fabric stability has been developed by
   a. Dan River Mills c. Textile Research Institute
   b. General Dyestuff Corp. d. Institute of Textile Technology
10. "Tar spots" in finished cotton goods have in many cases been found at ITT to be caused by:
   a. resin sacs from leaf c. impure chemicals
   b. asphaltic materials d. lubricating oils

WEATHER AND DISPOSITIONS

Dear Editor:

A textile executive I know had a violent attack of nerves during an argument with some friends. The excitement was easily calmed down—but what was the cause? A thunder storm was imminent; and the excited man, a shrewd and intelligent thinker, had been affected before by such storms.

Human relationships everywhere would be more peaceful and unruffled if people would only realize the effect of weather on their dispositions and make proper allowance for little flare-ups.

Avoid your most difficult customers on falling-pressure days. Call on them when fair weather and a rising barometer are standing by as your allies. What looks like fatigue or bad temper may be nothing but a sun spot or too much soot in the air.

Knowledge gives hope and relief. Those affected by weather conditions should recognize the fact and remember that fresh winds will always blow again.

DR. W. SCHWEISHEIMER
Rye, N. Y.

DUTCH IMPRESSIONS

Dear Editor:

Perhaps what one Dutch textile visitor to the United States, Johann Panhuyzem, managing director of the Central Bureau of the Netherlands Cotton, Rayon, and Linen Industry, said recently about American labor will interest readers who like to think about attitudes of mind and their relation to success.

Mr. Panhuyzem said that the Dutch team members were impressed by the fact that unions realize "that you don't make the cake any bigger by just bargaining." Unions are "keen for efficiency, to try to get a larger cake and to keep the mills they are connected with in competition. The unions are for free enterprise.

"The American worker knows that poor work penalizes him and everyone else. He is given an opportunity to see the quality of the final products of his mill; so he knows what he is working toward."

Mr. Panhuyzem hopes more Europeans will take on more of this same "refreshing unsatisfied spirit."

GOTHAMITE
New York

Exploring

The Textile Community

HOW GOOD A BOSS Are You?

By MILDRED BARNWELL ANDREWS

▶ Here are 10 good ways to find out whether you put your "bossing talent" to good use. Test yourself with these questions and see how you rate as a leader.

MILDRED ANDREWS

EVERYONE HAS the opportunity to be boss some time, some place, over someone. How the opportunity is used determines whether or not bossing others is a privilege or a personal handicap. Maybe you boss only one guy, or maybe you're head of a division and boss many. But it's important to put bossing talent to work whether in a limited or a wide personnel range. And about your skill and diplomacy in bossing—have you analyzed employee reaction yet?

Not long ago a company was having some difficulty in keeping up the general morale of employees. There was no specific complaint; there was no one cause to justify the slowdown and discontent throughout the plant. But it was there, thick as smoke in a caucus room. Consultations were held with overseers, and even with some of the employees; but everyone said, "There's nothing to complain about." But their shoulders drooped as they left the conference. There just was no pep, and a strong undercurrent of discontent popped up above the surface at times.

Something Was Wrong—But What?

A man skilled in the knowledge of human relations was called in and asked to analyze the situation.

"If it's a raise or a benefit or something tangible, please find out and tell us," said the manager of the firm. "Our efficiency is not up to par, and I want to get back the proper spirit of cooperation in this firm; either that or I'll be ready to quit."

The expert went to work. He called a meeting of all the members of the supervisory force. Then he divided the group up into fours and threes. He said "Just get into a huddle and ask yourselves questions on how you are bossing; then we'll talk about the findings."

When all the small groups had talked themselves out, a couple of hours later, the analysis of the problem was undertaken. It was found the trouble was not just in bossing. Somehow a system of planning of machine operation and of jobs had been set up by discussions with the daytime employees only.

That was the root of the trouble. The third shift was never consulted but had to go along with the decisions, good or bad, of the other two. The boys on the third shift felt left out. They were not told why changes were made. They did not feel they were part of the planning. They felt they were just "props," not people. Their unrest and resentment and critical remarks had permeated the entire organization until everyone carried a chip on his shoulder. Work does not go well, and machines do not work well unless the worker is in good spirits.

A reorganization of planning committees of the supervisory staff to include members of the forgotten shift was the simple and obvious result. For the first time every employee began to feel he was part of the company's organization. And as soon as that sense of pride became established, the morale of the force reached a new high level, and efficiency was regained.

Test Your B. Q.

There are many ways in which bossing can be good or poor quality. Quiz yourself; allow ten points for each of these questions:

Do you allow personal friendships to overemphasize interest in someone while you neglect someone else?

Do you ignore your subordinates as people, or do you inquire about their families' interests and well-being?

Do you criticize a worker before others, or do you diplomatically point out in privacy what the trouble is?

Do you lose your temper and "blow your top," or do you cool off before taking up a controversial issue?

Are you stingy with your praise when a job is well done, or do you show your appreciation of the effort and the result?

Do you take your full share of responsibility when something goes wrong, or do you pass the buck to the other fellow?

Do you accept suggestions, or do you resent them?

Do you argue about trifles and get into heated debate on greater matters– or do you discuss matters calmly?

Are you helpful in training others and giving them a chance to get ahead, or are you jealous of their ability?

If an employee is given a new assignment, do you carefully explain the reasons and importance and opportunity in the change, or do you forget– and allow him to feel it is due to some fault in his workmanship?

Now add up your score and see what your B. Q. (Boss Quotient) is.

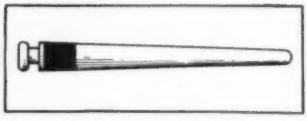
If you have a good B. Q. and, in addition, spend time planning and supervising for progress of your department, you're a good boss.

Last time I went through one of the bigger and better mills, accompanied by the president of the company, I saw several examples of supervision in action that pointed up the art of bossing in terms of human relations. This man always carries a little black book in which he notes suggestions, criticism, and praiseworthy projects and results. He doesn't hesitate to tell any man how to improve his work, but he always qualifies it, with his customary disarming grin, and adds, "If you can't come up with a better idea, then do it my way."

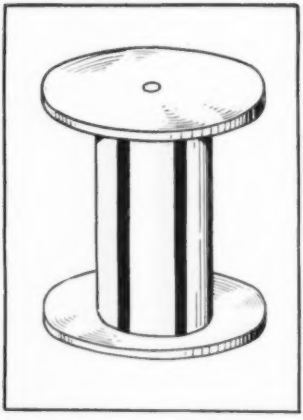
In the words of one of his long-time employees, "He's my kind of boss."

Kinks AND SHORT-CUTS

Stripes Help Yarn Visibility on Bobbins

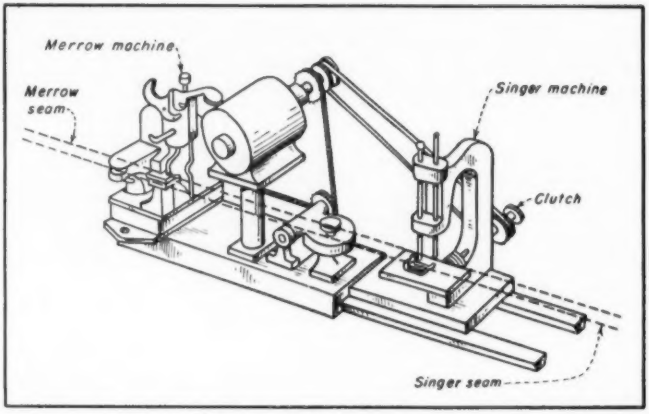


NON-AUTOMATIC LOOM BOBBIN has dark paint at the base to help the weaver to determine when the yarn runs out. Paint also helps distinguish bare bobbins in quilling. *Hokao, Fukaya, Japan.*



WINDER BOBBIN is painted with several bands of dark paint to aid the operator in judging how much yarn is left on the package. *Hokao, Fukaya, Japan.*

Sew Two Seams at Once With This Sewing-Machine Set-up



AFTER THE FEEDS ARE STARTED SEPARATELY, these sewing machines move down the track and sew two seams, 1½ in. apart.

Some styles of cloth require two seams before they can be run through the dye jigs. We formerly used two separate sewing machines for this double operation. Now we've rigged up the two machines in tandem and have to run the cloth through only once to get our double seam.

We had a Singer and a Merrow machine that weren't flush with each other when they were placed side by side. This problem had to be licked before anything else could be done.

First we took a 4-in. base, put it on a lathe, and turned it down so that it would run on the same track with the Merrow base. Then we bolted the new Singer base to the Merrow base and put the Singer machine on its base. We offset the Singer machine so that the second seam would be 1¼ in. away from the first. Total track length is 92 in.

We decided to run the two machines with one motor. To accomplish this, a second pulley was put on the motor shaft and a belt was connected to the Singer head from a second pulley.

Each machine has a clutch so that we can stop it separately if we want only one seam.

To get the system in operation, the cloth is placed in the Singer head. Then the machines move down the track mechanically until the Merrow machine reaches the cloth. The Singer machine is taken out of operation by the seamer hitting the clutch. Now the Merrow machine is fed. With both machines fed and ready to go, both clutches are thrown and the two seams are sewn simultaneously. As each machine moves off the cloth, the operator hits the clutch to stop it. *Kenneth Kiser, Concord, N. C.*

Master Size Mix Saves Us Time

We're saving time in size preparation by using a master mix. Here's how we do it.

Our set-up is on a gravity-flow basis from mixing kettle to storage kettle to size box. We make our master mix in the mixing kettle—either 1 or 2 lb. of size is used per gal. of water.

When we want to make a fresh batch of size, we open up the line from the mixing kettle and allow enough mix into the storage kettle. A hot-water meter just behind the storage kettle helps us to be accurate at this point of the operation.

Then we add our hot water, fats, and oils, and make our size. Our slashers can go into operation much more quickly since we started using a master mix. We can also make a full kettle or any fraction that we need.

U.S. ACME
MODERN THROWING EQUIPMENT

SERVICE THAT KEEPS THOSE SPINDLES RUNNING

to help you get better performance and better yarn quality at lower cost...

Your throwing profits remain steady . . . your yarn quality remains uniformly high . . . your costs stay low—when your throwing equipment is operating at top performance! These are basic, elementary facts and the reasons why U. S. Textile maintains an adequate stock of repair, replacement and modernization parts for throwing machines.

Whether you need repair parts to "keep those spindles running", or technical service to help you solve new throwing problems with your present machines—*CALL U. S. TEXTILE!*

Most orders for parts are shipped within 48 hours, oftentimes the same day, because U. S. Textile service did not end the day you bought the machines!

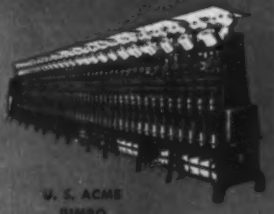
Yes, a U. S. Textile technical expert will come to your plant when you need on-the-spot cooperation . . . and the many years' experience of our engineers and designers, the results of never ending tests in our research laboratory—are all available to you! *Write, wire or phone . . . U. S. Textile is at your service!*

SERVICE AT THE TIME OF PURCHASE...
SERVICE OVER THE YEARS!

U. S. ACME HIGH SPEED SPOOLER spindleless construction

U. S. ACME FACE DRIVE TWISTER the high speed headless package twister

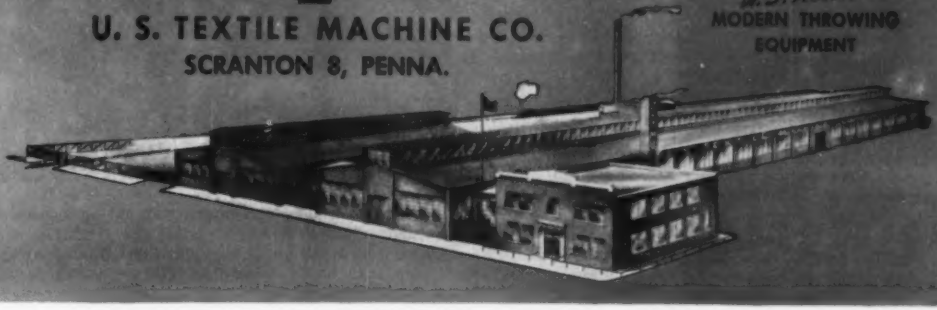
U. S. ACME JUMBO DOUBLE DECK TWISTER



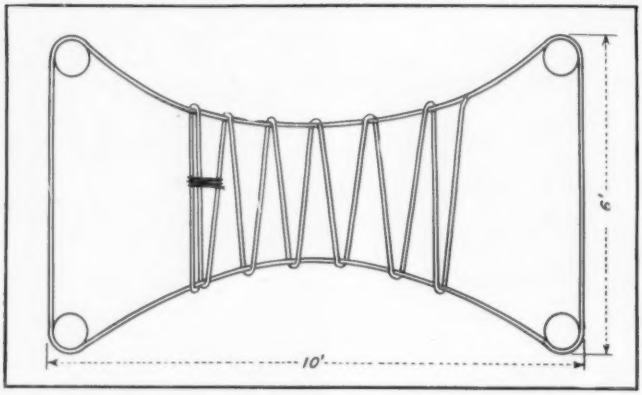
U. S. ACME JUMBO DOUBLER TWISTER

U. S. TEXTILE MACHINE CO.
SCRANTON 8, PENNA.

THE HOME OF U.S. ACME MODERN THROWING EQUIPMENT



Stretch Card-Band Rope Before You Use It



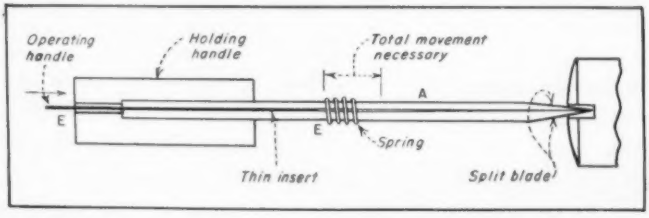
ANY UNUSED FLOOR SPACE can be used to set up four posts for stretching card rope. Card bands spliced from this stretched rope stretch less after they are put in use.

We have a simple but effective method of stretching the rope we use for card bands before the bands are spliced. We find that this pre-stretching eliminates the replacement of many loose bands after they have been running for a short time.

Four posts are placed in the basement of the mill, arranged as shown in the drawing. The rope from one or more reels or bundles is wound around all four posts in turn. One end of the rope is fastened to the starting post, and the rope is laid in parallel strands encircling the posts.

Enough rope is retained to pass across and around the parallel lengthwise strands of rope. These cross strands are pulled tight. The tension stretches the rope by pulling the opposite lengthwise strands toward the center of the enclosed rectangle. The rope is left in this stretched position until it is required for use.

Split Screwdriver Grips Screws Securely



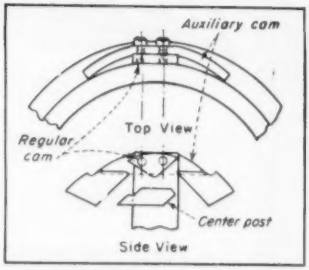
OUTWARD PRESSURE of the screwdriver blade against the sides of the slot in the screw holds the screw firmly. A tiny wedge between the halves of the blade does the trick.

If you've ever had trouble with screws in out-of-the-way places falling down behind a machine before you can get them started, you may be interested in this new screwdriver.

All it consists of is a split screwdriver blade with an arrangement to spread the points apart in order to grip screws tightly in the groove.

The blade is made in two parts, split down the middle. A thin blade is placed in the slit. The blade is connected to a handle at the palm end of the screwdriver, inside the regular handle. This blade extends about halfway down between the main blade parts. A spiral spring holds the main blade halves together, except when the thin central blade forces the head apart. *W. E. Warner, Essex, England*

Auxiliary Lifter Cam Lengthens Needle Life



AUXILIARY CAM fits behind and supplements regular raising cam on S&W circular knitting machines.

Ever have trouble with needles not being carried high enough on a Scott & Williams circular-hosiery machine? We did, but not any more. We developed an auxiliary lifter cam to work in conjunction with the regular cam.

On all S&W machines except the coarse ones, the regular cams are adjustable. If the cams are set a little low or displaced by too stiff a needle when it strikes a lifter, the lifter will not carry the needle high enough. So they strike the center cam and are badly bent or have the butts sheared off. Breakage of cylinder walls is also common.

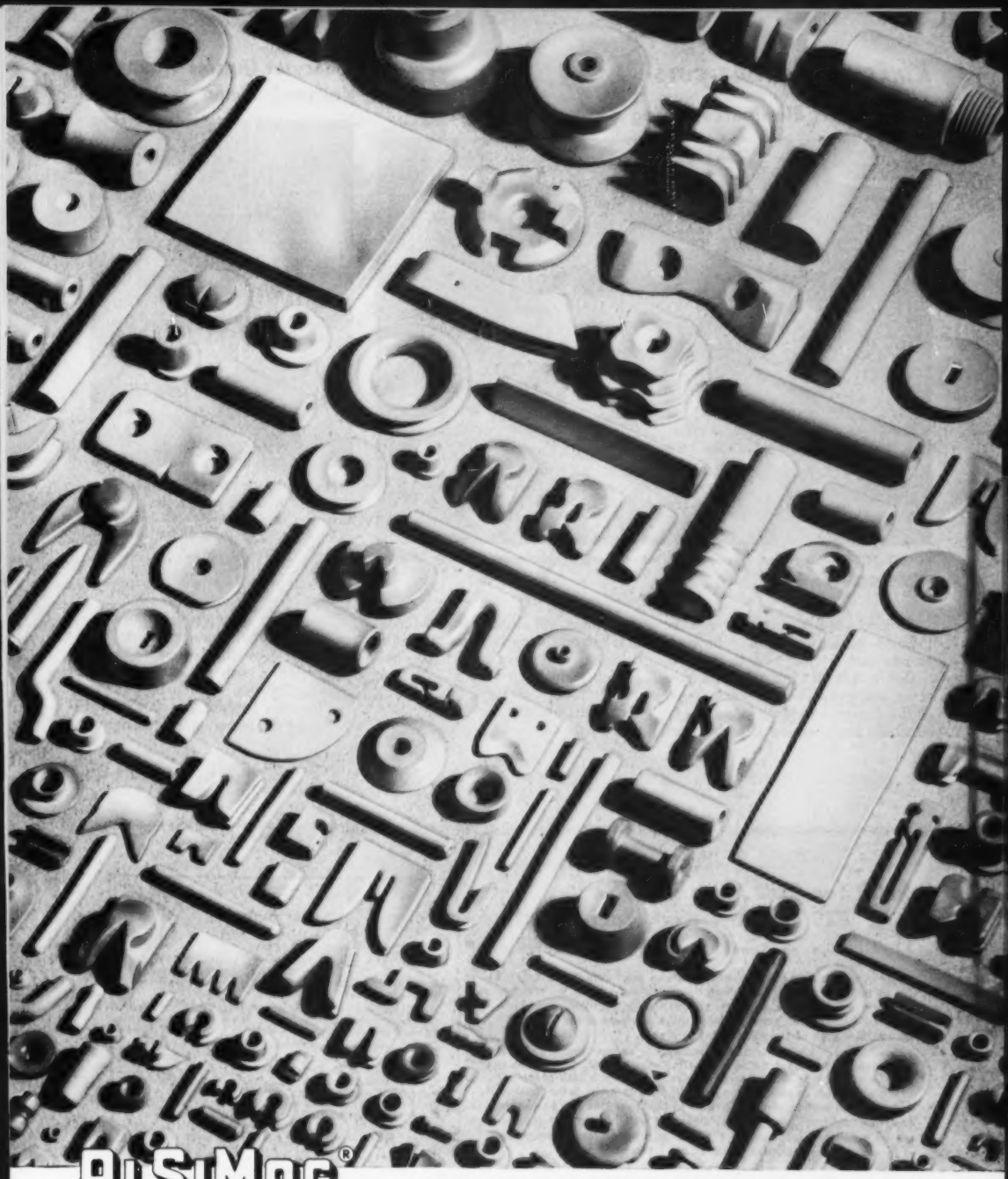
This trouble is eliminated with our fixed auxiliary cam. Both ends of the cam are supported by the cylinder. We didn't remove the regular cams but used them to stop the lifters at the right spot. We also used the regular cams to guide us in fitting the new cams to maintain normal lifter motion.

Here's how to make the auxiliary cam. Use soft steel ⅝x½ in. thick. Mill the slot ⅜ in. deep for a close fit on the center post. Bend and fit the cam into position. Harden and polish upper surfaces where the lifters ride.

The cam is secured to the back of the center post with screws ⅜ in. longer than those used for the center cam alone. *Walter A. Simond, Essex Junction, Vt.*

Keep Condenser Screen Clean

A broom wire put on a board and placed against the condenser screen will keep the screen from loading up and will keep the wire clean. *Avondale Sun*



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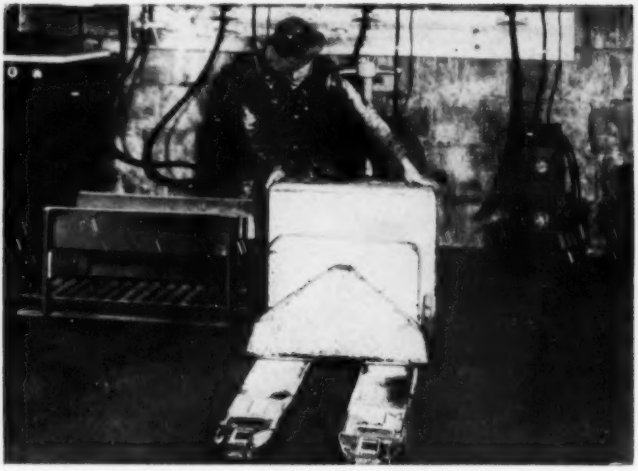
Kinks AND SHORT-CUTS

Battery Cart Eliminates Lifting



ROLLER-BOTTOMED battery carrier makes battery handling lots easier. No special parts are necessary.

Industrial truck batteries can be handled easily with this four-wheel battery cart. Here's how to make it.

Get a 4-ft. section of roller conveyor, and put a caster on each corner of the conveyor section. Weld a 2-ft. structural angle section at each corner of the conveyor section, perpendicular to it and on the opposite side from the casters. To complete the truck, bolt 2x8-in. planks across both sides and one end. The 2x8 for the fourth side should fit into a slot for quick placement after the battery is pushed on.

To remove a battery from an electric truck, roll the new carrier to the truck and slide the battery onto the carrier. Then push the battery to the charging location. If you have a carrier for each battery, you won't have to unload the battery during charging.

Binocular Glasses Sharpen Knitters' Vision

OPERATORS AND FIXERS of full-fashioned and other types of knitting machines can make repairs and adjustments more easily with binocular magnifying glasses like these.

$200 for Best Kink in 1952
$25 for Best Kink Each Month

In Addition to Space Payment on Acceptance

You undoubtedly know of many kinks and short-cuts that are helpful to mill operators. Write them down and send them in. We pay promptly on acceptance—before publication. In addition, your kink may win the $200 check for the best kink of the year or the $25 check for the best kink of the month; maybe both!

Send in your kink now. There is always a contest going on. The more good kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every kink accepted.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it—we will pay you extra if you do and we can use it.

Look over the kinks in this and other issues. You will get ideas you can use as well as inspiration for kinks you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

Your published kink will be judged impartially by other mill men. In case of ties, duplicate prizes will be awarded.

RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $200 prize contest for the year. Monthly contest confined to kinks published that month, yearly to those published in calendar year 1952.
3. All kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred kinks in each issue. Their votes will select the best kink, and their decision will be final.

Send kinks to whichever address you prefer:

TECHNICAL EDITOR, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.

TECHNICAL EDITOR, TEXTILE WORLD
330 W. 42nd St., New York 18, N. Y.

NEW ENGLAND EDITOR, TEXTILE WORLD
P. O. Box 305, Salem, Mass.

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Write for free samples of colors today!

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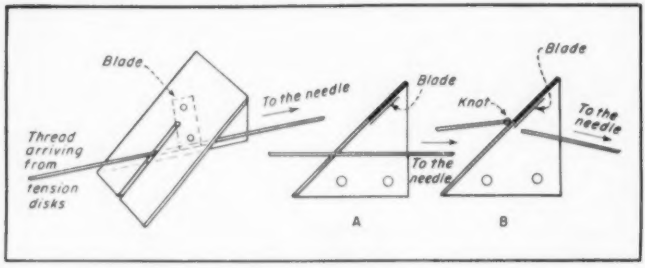
Kinks AND SHORT-CUTS

On Overlock Machines— Knot Cutter Prevents Damage to Needles



RAZOR BLADE under inclined slot cuts thread before tension bends needle

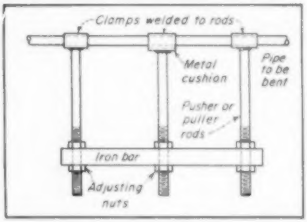
Perfect seaming on overlock machines of the Willcox & Gibbs type depends on a proper relationship between needle and looper. The needle is often bent out of position when a knot comes along. Here's how we prevent the excessive thread tension that causes bending.

Cut a narrow slot in an inclined plate. The slot should be wide enough to allow good thread—not knots—to pass through. At the top of the slot and underneath the incline attach an ordinary razor blade.

When a knot comes along, because it can't get through the slot, it will slide up the incline and press the thread against the razor blade, thereby cutting the thread before the yarn tension becomes excessive.

Our device works better than standard knot catchers. Most regular models hold the knot until excessive tension breaks the thread; the needle still takes a beating. Our knot cutter eliminates possible damage to the needle from excessive tension. *Lawrence Prelog, Sydney, Australia*

Straighten Pipe the Easy Way



YOU CAN STRAIGHTEN OR BEND pipe or rail with this handy gadget. It is made from a stout iron bar and some rods and sheet-metal clamps and some nuts to fit the rod stock.

Grunting, groaning, and hammering to straighten pipe or rails are things of the past when you use this simple device. You can also put desired bends or angles in stock if you wish.

A stout iron bar is drilled to take three sturdy rods. The rods are threaded for about the last third of their length. Two nuts on each rod hold the rods firmly to the iron bar.

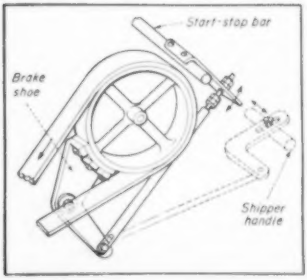
So far, you've got the operating end of the device.

The business end of this pipe-straightener—the other end of the three rods—is set up this way: A sheet-metal clamp, with a tightening nut, is welded to the end of each rod. The middle rod, where most of the pressure comes, also has a pad of soft metal to protect the pipe during bending.

To bend a piece of pipe, put the pipe into the three clamps, adjust the outside rods to hold the pipe firmly, then screw the middle rod down against the pipe until it is bent the way you want it.

Any one of the three rods can be operated either as a puller or a pusher, as long as the rod next to it exerts pressure in the opposite direction. *W. E. Warner, Essex, England*

Quick Stop for Older Tricot Models



BRAKE SHOE operates either from the starting bar (as shown) or from the belt-shipper handle (in dotted outline).

The main cause of stop-mark defects in tricot fabrics is slow starting and stopping.

Most of the modern machines are equipped with a quick-stopping device; but if you happen to have an older model and can't stop it quickly, you will be able to improve your fabrics with this brake.

Fasten some old belting to the bent face of a steel plate to form a brake shoe. Then all you have to do is attach a pusher rod to the start-stop bar and to the brake shoe, as shown in the sketch.

If your machine has a belt-shipper rod, you can actuate the improvised brake shoe with the alternate mechanism shown in the sketch. The center axis X is fixed on a suitable part of the frame. If the contact point of belt and pulley is slightly higher than the line connecting the centers of the pulley and pin joint, you can wedge the brake shoe in satisfactorily.

You don't have to increase the push on the ordinary stopping mechanism to get quick stopping with this device. The leverage is enough to do the job easily.

And when you return the start-stop rod to the original position, the new brake is automatically lifted out of contact. *Minoru Uno, Kyoto, Japan*

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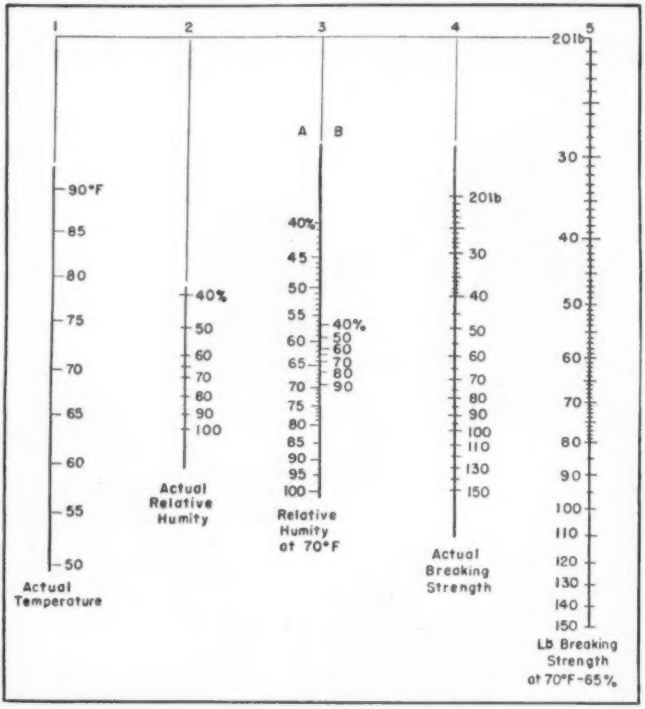
Easy Way To Relate Breaking Strengths to Standard Conditions



NOMOGRAPH FOR COTTON is divided into two parts. Use only the right half if temperature is 70° F. If both temperature and humidity are off standard, use the left half, then the right.

It is often necessary to make routine strength tests without waiting for the material to be fully conditioned in the laboratory. The conversion of such results used to be a tedious procedure, but now we do it quickly with a nomograph.

Condition #1—temperature 70°F. but relative humidity off. Start at Column 3B. Locate actual humidity. Now, holding one edge of your ruler at the actual humidity, swing your ruler down until the actual breaking strength is in line in Column 4. Read corrected breaking strength in Column 5 at the point where the ruler crosses that column.

Condition #2—both temperature and relative humidity not standard. Locate actual temperature and actual relative humidity in Columns 1 and 2 respectively. Lay the straightedge to connect these points, and read the corrected relative humidity in Column 3A. Now locate in Column 3B the value you have just found in Column 3A. Use the position in 3B as one reference point, your actual breaking strength in Column 4 as the second point, and read the corrected breaking strength in Column 5.

This nomograph is for cotton only. A similar chart may be made for any fiber.

Basis of the nomograph is the following table of empirical coefficients:

Relative humidity during test	Breaking-strength coefficient
40	1.100
50	1.060
60	1.022
65	1.000
70	0.978
80	0.944
90	0.904

A similar table for wool, from which a similar nomograph can be made, would be:

Relative humidity during test	Breaking-strength coefficient
40	0.950
50	0.965
60	0.986
65	1.000
70	1.018
80	1.068

Example: Breaking strength is 80 lb. at 65° F. and 50% r.h. Figure the breaking strength under standard conditions—65% r.h. and 70° F.

Locate 65° F. in Column 1 and 50% r.h. in Column 2. Use a ruler to locate r.h. at 70° F. in Column 3A—in this case 42½° F. Find 42½° F. in Column 3B and 80 lb. in Column 4.

Now use the ruler to read the corrected breaking strength in Column 5—87 lb. *Ernest Kallos, Melle, Belgium*

Here's A Quick Way To Paint Quills

We are using three different kinds of quills at our plant; and regardless of how careful we were in our spinning and weaving departments, they used to get mixed to a certain extent. We decided to paint or tip our quills in order to keep them from becoming so easily mixed. We did not have a machine for tipping or painting, and here is what we rigged up.

First, we had a flat-bottom pan made about 18 in. square and 3 in. deep. We filled this container about three fourths full with paint. We have found that a quick-drying paint gives us best results.

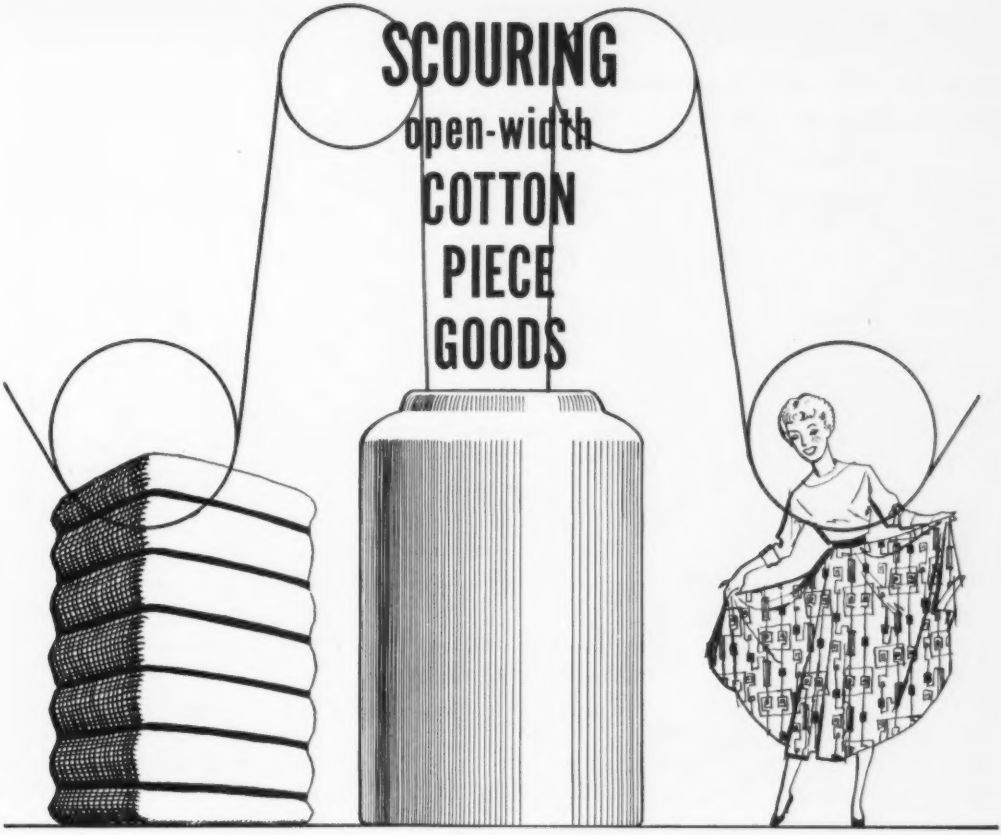
Then, we had a square board made from ½-in. plywood about 16 in. square. We had 100 holes, ¾ in. in diameter, drilled for the quills to go into up to the bases.

After we put the quills in the holes, we put a square board made of the same-size plywood without holes over the top to keep the quills from pushing up when they are dipped into the paint container.

We then dip the quills into the paint, take them out, and blot them on a rag. Then we slide the quill board onto a rack to allow the quills to dry.

All quills are painted the same way and thousands can be painted in a short time.

SCOURING open-width COTTON PIECE GOODS



Scouring open-width cotton piece goods in caustic boil-off before dyeing is one of the many important stages in textile processing where Santomerse No. 1 gives excellent performance as a detergent and wetting agent.

As a matter of fact, Santomerse No. 1 serves the textile industry across a broad front. It aids in giving fabrics a good bottom . . . assists in level dyeing . . . reduces crocking . . . prevents formation of insoluble metallic curds which cause spotting.

Santomerse 80 is also an effective scouring agent. Some mills prefer it since it represents a savings on the basis of active content. This is particularly true of mills where storage and handling are prime considerations.

For detailed information on Monsanto detergents and wetting agents, contact the nearest District Sales Office, or write MONSANTO CHEMICAL COMPANY, Phosphate Division, 1700 South Second Street, St. Louis 4, Missouri.

Santomerse: Reg. U. S. Pat. Off.

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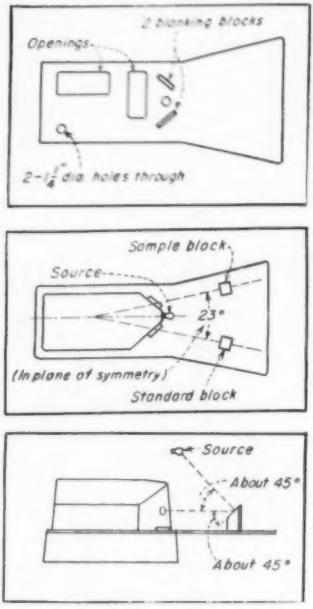
SANTOMERSE 80

SERVING INDUSTRY . . . WHICH SERVES MANKIND

Color-Measurement Set-up Used in Matching Colors



FIRST, make this plywood form . . .THEN insert it in the instrument . . . AND have your light source like this.

We've got a Color-Eye to measure color differences and help us in color matching. Here's how we've set it up to measure small areas—anything up to 3 in. in diameter.

First, we removed the three bolts that secured the measuring head to the base. We followed the instruction book carefully here. Then we cut a plywood platform, as shown in the accompanying sketch, out of ¾-in. stock. We inserted this platform between the measuring head and the power unit. The whole thing was held together by reinserting the bolts.

Supports were made to hold the samples at the desired angle of illumination. Sample and standard holders should be at exactly the same distance from the instrument.

After the sample holders are in place, all you have to do is back sight through the parts with the standard viewers. The field of view seen in the viewer will accurately define the area of measurement.

We found it wise to use samples that are at least 50% larger in diameter than the area seen in the viewer.

Best-Kink Award for December

Each month TEXTILE WORLD awards $25 to the submitter of the kink which is judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the kink appears.

The best kink for December, according to TEXTILE WORLD *reader-judges, was:*

"Each of Our Loomfixers Has His Own Tooltoter"

A. Keith Fawcett
Huntingdon, P. Q., Canada

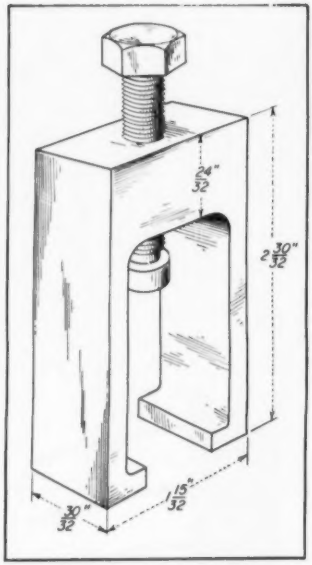
Mr. Fawcett is being sent a check for $25 with the compliments of TEXTILE WORLD.

Remove Worn Pickers With a Twist of the Wrist

Old or damaged loom pickers don't have to be pried loose with a screwdriver or other makeshift tool. You can attach a little picker puller to the magazine side of an S-6 C&K loom or on both sides of an X-D Draper loom.

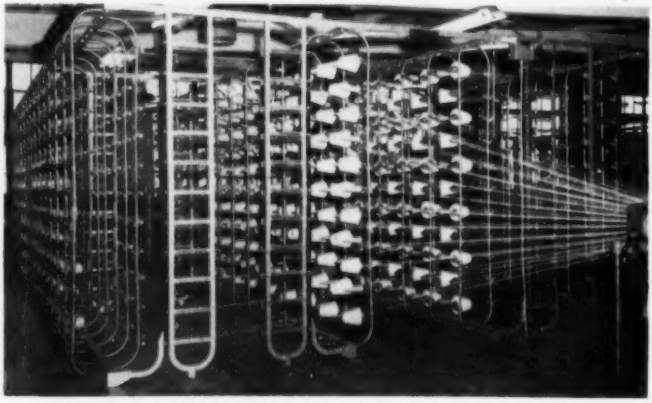
You take a piece of 1-in. flat stock and machine it as shown in the sketch. Final dimensions are: width, 1⅛ in.; height, 2 30/32 in.; thickness, 30/32 in. A ⅜-in. cap screw is threaded through the head, and a block swivel is attached to the end inside the puller.

Taper the inside leading edges of the puller to suit your own pickers. *Earle B. Hofford, Jersey Shore, Pa.*



PICKER PULLER is mounted right on the loom frame to speed picker replacement.

Tandem Assembly For Magazine Creel



NARROW-FABRIC weavers can cut costs of warp preparation with this versatile McBride creel assembled as two units in tandem.

Always Uniform

Thread . . . whether on a seamstress' spool or a mill spindle . . . must conform to high standards . . . inch after inch, mile after mile.

That goes for Victor Mill Starch, too. Mill men know they can depend on its unvarying quality . . . the uniform penetration, strength and smoothness it provides.

Both Victor and the Keever man who serves you, are known as "The Weaver's Friend" throughout the industry.

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SECURITY MILLS...pioneers in labelling Mitin Mothproofed fabrics in 1950...now announce that their entire lines of woven and Jersey fabrics are Durably Mothproofed with Mitin!

Two years of extensive marketing experience with Mitin Mothproofed fabrics convinced Security that Mitin is a vital sales factor for the mill. Mitin arms the mill with *two* strong selling arguments. Most important is the proven consumer plus sales appeal in Mitin Durably Mothproofed fabrics. But there is also the added value of simultaneous protection for manufacturers and store inventories—susceptible of damage in less than two weeks if proper precautions are not taken!

In their announcement Security states they chose Mitin because:

1. It protects not only the consumer but retailers' and manufacturers' stocks, as well, against moth and beetle damage.

2. Mitin is actually dyed in the wool by Security. It is imperceptible to feel, smell or sight, making no change in the high quality finish of Security fabrics.

3. It never has to be renewed—requires no special storage nor repeatedly applied and costly temporary protectants.

4. Stands weathering, wear and normal cleaning and is effective for the usable life of the garment.

5. Is backed by an insured guarantee against moth damage for five years.

You can incorporate this double-barrelled promotional feature in the fabrics you produce, too. Learn, as Security did, that Mitin Moves Merchandise. Your Geigy representative will be glad to provide complete information.

* "Mitin" is the registered trademark for the patented, mill-applied durable mothproofing agent sold by Geigy Co., Inc. U. S. Patent No. 2,311,062, Canadian Letters Patent No. 464,489.

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. . . to send a Kink, a letter for Round Table, or a news note.

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. . . to query the editors about any manuscripts you might wish to submit to them.

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Dear Editor: FEBRUARY, 1952

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2

Outstanding TRADE LITERATURE *Free for the Asking*

NO REPEATS . . . Listed here for February are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on the Reader-Service card, as described on the preceding page.

TEXTILE MACHINERY

Shrinking and sponging machines for woolens and worsteds are described in a folder issued by David Gessner Co. Cold-water shrinking and steam sponging are both covered in the publication. **(F-1)**

Tensionless continuous dyeing—goal of many for a long time—is now here, according to Ten-Co Machine Co. The booklet announcing their new dye beck outlines 10 advantages in the process. **(F-2)**

A warping machine in which the beam is rotated by rolling contact with a solid drum is the feature of a flyer distributed by W. Schlafhorst & Co. The spring comb of the warper oscillates laterally to minimize wear on the teeth. **(F-3)**

Automatically controlled dyeing machines for beams, packages, cones, tubes, roving, raw stock, or cheeses are described in a bulletin issued by Gaston County Dyeing Machine Co. Drying machines are also furnished, as well as dyeing accessories. **(F-4)**

Twenty-eight units in their line of cloth-finishing machinery are pictured in a folder put out by David Gessner Co. Among the machines are nappers, presses, gigs, crabs, decaters, steamers, and extractors. **(F-5)**

Opening arrangements on woolen cards are shown in detail in sketches that are part of a recent article in *Platt's Bulletin*. Another section describes an exhaust machine to collect the side or waste ends from the woolen card. **(F-6)**

Fifteen new sewing machines are shown in a booklet published by Union Special Machine Co. The machines, flat-bed models of the company's 50,000 series, are said to reduce unit sewing costs, improve stitch quality, and simplify maintenance. **(F-7)**

Twisters that make heavy threads and cords are discussed in a folder issued by Haskell-Dawes Machine Co., Inc. Cotton, flax, hemp, asbestos, and synthetics can be handled on the machines. **(F-8)**

Hot-oil dyeing with the new high-pressure Williams unit is described in a booklet from Morrison Machine Co. The standard Williams unit has been redesigned for the new process. **(F-9)**

AUXILIARY EQUIPMENT

A 3-in.-diameter rubber-covered, roll-type expander that minimizes space requirements is described in a bulletin made available by Raybestos-Manhattan, Inc. A wide range of fabrics—from light rayons to ducks—can have their stretch requirements met by the new unit. **(F-10)**

Thermometers are the subject of a release from Minneapolis-Honeywell Regulator Co. Indicating, single-record, and double-record types are shown. Lots of bulb styles are available too. **(F-11)**

Finishing plants—when you need electrical equipment you ought to get a unified service, according to a catalog from Westinghouse Electric Corp. The catalog describes finishing drives and includes some easy-to-read schematic diagrams of how the drives work. **(F-12)**

The multiple-cylinder dobby attachment invented by Ivar Moberg is described in a folder issued by Textile Specialty Co., Inc. The device can replace a jacquard head in many instances and can be applied to any dobby or head motion. **(F-13)**

Three pick-up heads are now available for their uniformity analyzer, according to a bulletin from The Brush Development Co. 8s to 150s (cotton) yarn, 0.8 to 15s roving, and 0.08 to 1.5s silver can be handled by the improved model. **(F-14)**

Electrical measuring and testing equipment is the field covered for the first time in a single publication by General Electric. More than 130 pieces of equipment are covered. The catalog is intended as a reference to the equipment available, not to describe each piece in detail. **(F-15)**

Moisture testers that are fast and simple are shown in a booklet published by Harry W. Dietert Co. One model can dry a 300-gram sample of wool in 15 min. without damage. **(F-16)**

The continuous-balance system that is the heart of their potentiometers is discussed at length in a bulletin made available by Minneapolis-Honeywell Regulator Co. All phases are given in detail—circuits, balancing motors, adaptability, stray currents, etc. **(F-17)**

Carpets from the looms of Mohawk take the spotlight in a recent issue of *Instrumentation*, a Minneapolis-Honeywell publication. You can see how instruments help Mohawk make their quality product. **(F-18)**

SUPPLIES AND CHEMICALS

Casters are important—and there is an important difference in casters, ac-

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Reader Service (Continued)

cording to a bulletin from Wilkin & Matthews. Did you know that the average 30,000-spindle mill spends over $1,000 a year on casters? **(F-19)**

"Phthalocyanine Blue" is the subject of the most recent technical bulletin received from Calco Chemical Div., American Cyanamid Co. The toners described are used in coating processes. **(F-20)**

What's your problem? If you're in the knit-goods branch of the industry, you'll be interested in a folder that describes the services offered by Commonwealth Color & Chemical Co. **(F-21)**

For dry and wet processing of wool and blends of staple fiber, there's a whole range of products described in a folder from E. F. Drew & Co., Inc. Carding, spinning, scouring, and fulling operations each have special products listed. **(F-22)**

Polyvinyl acetate emulsions and solutions are given a thorough going-over in a catalog put out by American Polymer Corp. Seventeen properties of the resin make it particularly adaptable for textiles. **(F-23)**

Pluronics—a new series of nonionic surface-active agents—are described in a bulletin published by Wyandotte Chemicals Corp. Wetting and penetrating ability, with excellent detergency and rinsability, is claimed for the new products. **(F-24)**

Acetate dyestuffs with excellent resistance to both atmospheric gas and light are described in a folder issued by Tennessee Eastman Co. A companion folder features new dyestuffs for Dacron, dynel, and nylon. **(F-25)**

A durable finish of crush resistance for cotton or rayon fabrics and mixtures is accomplished with NCF paste, according to a release from Onyx Oil & Chemical Co. The resin finish is also used for insolubilizing, reducing shrinkage, and providing springiness. **(F-26)**

Nacconol NR—the new, all-purpose, surface-active organic detergent—is described in literature from Allied Chemical & Dye Corp. The product is used in dyeing and scouring both rayon and acetate, in dyeing, fulling, and scouring wool, and also for cotton, silk, leather, and paper. **(F-27)**

Another revision of their abstract of government specifications requiring fungicides has been released by Nuodex Products Co., Inc. The information is kept up to date by 3-mo. revisions. **(F-28)**

Current dyeing methods for some of the newer synthetics and blends are outlined in a brochure compiled by General Dyestuff Corp. You can get data applicable to Dacron, dynel, Acrilan, Orlon, Vicara, nylon, acetate and nylon blends, Celcos, saran, and Fortisan. **(F-29)**

A versatile sequestering agent for textile processes—Sequestrene—is the feature of a bulletin made available to TW readers by Geigy Co., Inc. One of the uses of the product is in the attainment of maximum whiteness with optical bleaches. **(F-30)**

Customers asking for mothproofing yet? You'll be interested in a durable mothproof, Mitin, described in literature made available by Geigy Co., Inc. General properties, fastness properties, and method of application are given. **(F-31)**

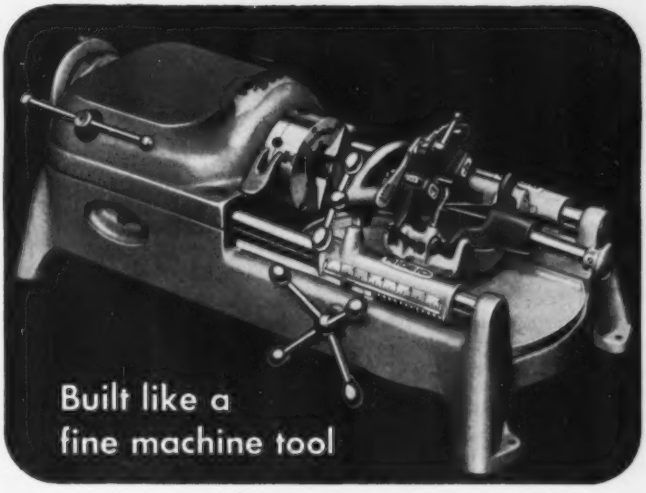
An antifoaming agent that does not depend entirely on its property of decreasing surface tension to be effective is described in a folder from American Aniline Products, Inc. Depuma is an odorless, creamy-white emulsion. **(F-32)**

If you're interested in silicones for water-repellent treatments of synthetic fabrics, fill out the Reader Service Postcard and circle **F-33.** You'll get a good folder on the subject from Dow Corning Corp.

Detergency and wetting are the two main categories in which fall the surface-active agents described in a bulletin published by E. F. Houghton & Co. Seven

Announcing THE GREAT NEW "500" RIDGID

PIPE & BOLT THREADING MACHINE



Full of typical RIDGID Improvements

- Range ⅛" to 2" pipe; ¼" to 2" bolts.
- Cutting, threading and reaming tools operate independently and right up to chuck, swing up out of way when not in use.
- New RIDGID quick-opening quadritype, dualtype and monotype die heads save time and work.
- Concealed oil system, reversible pump, no priming.
- More than 20 other efficiency improvements—see this remarkable new RIDGID "500" at your Supply House!

THE RIDGE TOOL CO. • ELYRIA, OHIO

★★★ RIDGID Work-Saver Pipe Tools ★★★

"Want of care does us more damage than want of knowledge."

—Ben Franklin's Almanac, 1757

Thee can hide the fire of waste, but what will thee do with the smoke when ye Boss casts an eye on your department report?

—Acme Steel Notebook, 1951

How's *your* business? New people arriving, willing but perhaps untried? Old hands coming back and finding skills a little rusty?

Now's the time to get them off on the right foot toward increased efficiency and greater thrift. There's no better place to begin than in your packing and shipping operations. Take box stitching equipment for example. Here are five things everybody ought to know to keep Acme Silverstitchers on the job:

1. **Clean and oil every day.**
2. **Never operate stitcher without material in stitching position.**
3. **For perfect stitching, check work regularly. If in doubt about any operating difficulty, refer to service manual (additional copies sent upon request) or submit stitched material, identified by machine type and serial number, to Customer Service Department, Acme Steel Company.**
4. **From time to time moving parts need replacement—keep a supply on hand to make quick minor replacements.**
5. **Ask us about the Acme Steel "3-WAY SERVICE PLAN" for equipment repairs.**

Follow these suggestions. And ask your Acme Steel representative to work with you on ways to increase efficiency, eliminate waste and stretch the available supply of Acme Silverstitch box stitching wire. Or write Dept. Tex-22.

ACME STEEL COMPANY, 2840 Archer Avenue, Chicago 8

Acme Steel employees on December 31, 1950, numbered 4,098 men and women, an increase of 8.18% over 1949. Monthly employee turnover average in 1950 was only 1.7% despite the growing manpower needs of the armed services.

ACME STEEL

Steel Strapping — Stitching Machines & Wire Barbed Straps — Corrugated Fasteners — Hoops — Strip Steel

Reader Service (Continued)

combination products and three wetting agents are listed. **(F-34)**

Of the soaps and detergents talked about in a new catalog from National Milling & Chemical Co., Inc. three are especially interesting: Namico "C" flakes, a low-titer soap; Namisyn gel, an anionic detergent; and Namico H188, a dyeing assistant. **(F-35)**

Three versatile starches are described in a folder issued by National Starch Products. No. 1 is a size for spun rayons, worsteds, and cotton. No. 2 is a starch stabilizer. No. 3 is a printing thickener. Send for **(F-36)**

ENGINEERING AND MAINTENANCE

Temperature control in dyeing and finishing is the subject of thorough treatment in a big catalog issued by Sarco Co., Inc. Simple sketches show how the equipment can be used. **(F-37)**

Stacked. That's what your products can be if you use one of the lift trucks described in a booklet from Clark Equipment Co. The booklet covers a broad line of trucks, tractors—even axles and transmissions. **(F-38)**

Double-pitch roller chains for drives and conveyors are shown in a bulletin published by Chain Belt Co. Charts, photos, diagrams, and tables illustrate the chains and their applications. **(F-39)**

Ride 'em or walk 'em. That's what you can do with the latest industrial trucks described by The Yale & Towne Mfg. Co. Available in capacities up to three tons, the trucks are said to be particularly suitable where floor capacities prevent use of sit-down trucks. **(F-40)**

A strength member engineered to make this particular conveyor belt superior is described in a bulletin issued by Raybestos-Manhattan, Inc. The thick narrow belt is good where there is danger of puncture. **(F-41)**

Floating-disk clutches are pictured and described with engineering drawings and specifications in a catalog published by The Carlyle Johnson Machine Co. A non-locking lever prevents the clutch from being locked into engagement when used with foot pedal. **(F-42)**

Air—its conditioning, handling, and cleaning. A booklet from Westinghouse Electric Corp. Included: data on the Precipitron, the electronic air cleaner. **(F-43)**

"How to Increase the Output of Your Dry Cans" is the title of a provocative bulletin put out by Sarco Co., Inc. Highly technical descriptions have been omitted so that plant operators as well as engineers can understand the principles of steam economy. **(F-44)**

Hydraulic lift trucks of several types are shown in a catalog prepared by The Raymond Corp. A 1,000-lb. unit combines advantages of both lift and tiering trucks. **(F-45)**

Electric motor upkeep. A maintenance program that will keep your motors humming is presented in a Commerce Dept. Defense Production Aid. Request **(F-46)**

Welding and cutting equipment features an apparatus catalog issued by Victor Equipment Co. The company also makes pneumatic controls for air-operated tools and machinery. **(F-47)**

GENERAL

Know enough about fire protection? American-La France Foamite Corp. has put out an educational booklet on correct fire protection that may interest your plant fire fighters. **(F-48)**

Food service for your plant is the feature of a bulletin issued by Slater System, Inc. The company can take care of any needs from an executive dining room to automatic vending service. **(F-49)**

Filing systems for all types of operations are the subject of a handy guide made available by Remington Rand Inc. Time, effort, trouble, and money are said to be saved with the systems. **(F-50)**

THIES

DYEING EQUIPMENT OF WORLD-WIDE RENOWN.

As manufacturers of dyeing apparatus for sixty years, we now enjoy a world-wide reputation.

Universal dyeing apparatus for all normal yarn packages.

Guaranteed levelness and perfect matching in all shades.

A universal after-treatment apparatus which works most economically and with short liquor ratios.

Liquor ratios 1 to 3 up to 1 to 4. Boiling-out, pre-treatment, sucking-off, rinsing, steaming, oxidizing, soaping, and every other type of auxiliary treatment.

Pre-treatment apparatus with circulation by means of vacuum, suitable for all bleaching processes.

All made in special stainless steel.

RAPID DRYING APPARATUS giving the shortest drying time without affecting the fibre.

After initial loading, prior to wetting-out, packages are not handled until dyed and dried.

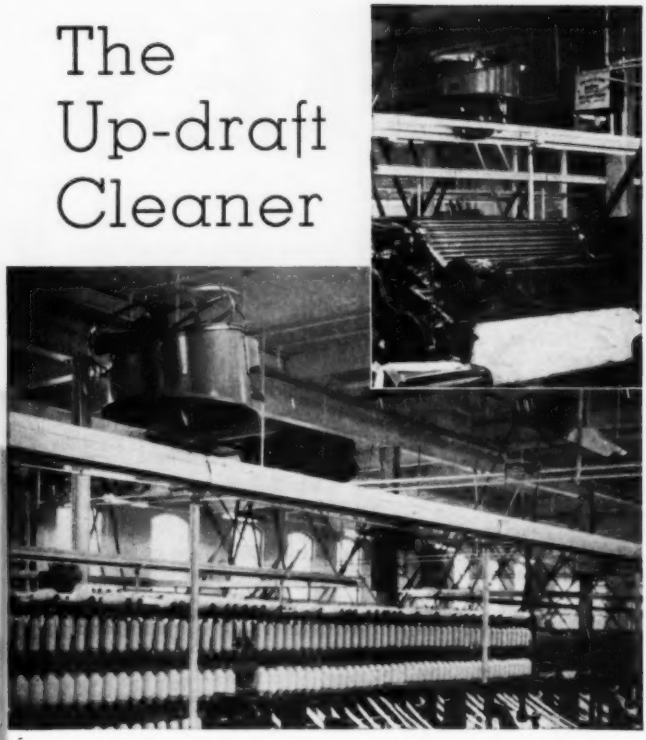
No deformation of the cheeses or cones.

B.THIES

Special Machine Factory for Dyeing and Bleaching Plants

COESFELD/WESTPHALIA,
Western Germany

The Up-draft Cleaner



Originally designed to be used with the Parks-Cramer Frame Cleaner (mounted on spinning, winding, twisting, and other frames), the Up-draft Cleaner has lately gained its independence and gone into the preparatory areas alone. It has proved particularly effective in the card room. Virtually all hand cleaning of upper areas is eliminated by this automatic, mechanical cleaner.

Operating on our standard track, it goes about its business without getting in the way of belts, shafting, or air conditioning ductwork, either present or contemplated.

With its continuously revolving column of air, it effectively cleans lights, pipes, conduits, and ductwork.

The Up-draft Cleaner is another worth-while investment in better textile mill housekeeping.

And what a difference a clean room makes!

Parks-Cramer Company

Fitchburg, Mass. PARKS Certified Climate Charlotte, N. C.

Questions AND Answers

Good Tints For Finishing Cotton-Nylon Hose

Technical Editor:

Is there a dye or tint, fugitive on cotton, that will not migrate and permanently stain nylon under the conditions of preboarding?

We use single-ply mercerized cotton yarn for plaiting over nylon in the foot of men's half-hose. Our present cotton-yarn tint migrates into the nylon during preboarding and cannot be removed. The hose cannot be scoured to remove the tint before preboarding because the nylon stitches become disarranged. (9499)

There are very few tints, fugitive on cotton, that will not migrate and stain nylon under the steaming conditions required in preboarding. Nylon is peculiarly susceptible to staining from surface soil. Dyes of the soluble or semisoluble types commonly used in tinting are usually fixed in the steaming operation and cannot be removed even when scoured.

In this particular case, it is necessary to select types of dyes that are quite fugitive on cotton yarn and have very little affinity for nylon. Acid dyes generally used as fugitive colors on cotton will stain or dye nylon, except for a very few colors in this group. The most satisfactory type for use under the conditions described is Naphthol Green B, listed in Color Index No. 5 in the Technical Manual and Year Book of the AATCC.

Training Times

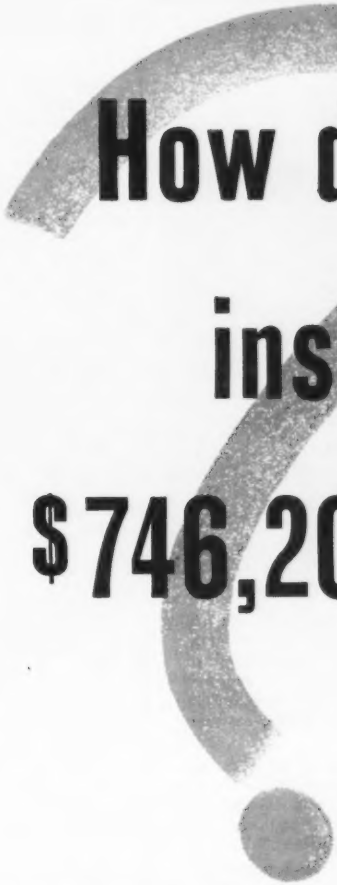
Technical Editor:

In a cotton mill, what is the average training time for a spinning doffer, drawing tender, and card tender? (9494)

Spinning doffer: six weeks is the learning period in one mill. But it usually takes six months before a new doffer reaches normal speed. Most mills promote sweepers, oilers, and roving men because these men are familiar with the process.

Drawing tender: one day's training with a working instructor should enable a trainee to run part of a job on the second day. A full job can be assigned on the third day if the in-

How do you insure $746,200,000?



The whole textile industry would like to know the answers to that question...because they spent $746,200,000 on textile mill modernization last year!

While we don't have all the answers, here's one good way of insuring that part of the investment that was spent on machinery . . . and a very simple way, too! JUST ADOPT THE COMPLETE LINE OF CITIES SERVICE LUBRICANTS FOR YOUR OPERATION.

Cities Service Lubricants...specifically designed for the textile industry...are top insurance against costly wear and parts failure. With these quality products you're assured of cleaner machine bearings and shafts, and cleaner finished goods, too. With them you can keep friction, due to gumming and power load, down to the barest minimum . . . KEEP PRODUCTION AT MAXIMUM.

Why not use Cities Service as the single dependable source for lubricants exactly suited to your operation? Test them by turning over your most stubborn lubricating problem to a Cities Service Lubrication Engineer. He wants to help you. He can help you. Simply write CITIES SERVICE OIL COMPANY, Dept. B38, Sixty Wall Tower, New York City 5.

CITIES SERVICE

QUALITY PETROLEUM PRODUCTS

JENKINS' METLKOR®
BETTER BRUSHES FOR BETTER COTTONS

BRUSHING MACHINE

The widening uses and demands for cotton over past decades has created a number of new problems in production and finishing. M. W. Jenkins' Sons has designed and developed a special line of brushes to solve these problems. The results of this experience, research and development, in cooperation with leading textile mills and machinery manufacturers are available today in the highly efficient patented Jenkins' METLKOR brush.

This brush, with a permanent metal core, can be set with any bristle and can be rebristled when worn. Bound in place with corrosion-resistant metal and sealed in with solvent-proof plastic cement, the Jenkins' METLKOR brush is moisture-proof, acid- and alkali-resistant, will not sag, split or get out of alignment, is true balanced.

METLKOR brushes outlast other kinds of brushes and, in terms of service, are the most economical.

Whether you have a standard or special brush problem, Jenkins will manufacture to your specifications and needs, the right brush for the right job.

LIFEWOOD® *for wood core brushes and lags.*

OTHER METLKOR BRUSHES FOR COTTONS:

CARDING • SINGEING • BRUSHING PRIOR TO PRINTING • PRINTING BLANKET SCRUBBER, WASHER AND DRIER • BACK GRAY SCRUBBER • SOAPING • FURNISHER BRUSH CLEANING

FURNISHER

SHEAR RAISING

1877 • DIAMOND JUBILEE • 1952

M. W. JENKINS' SONS, INC.

Three-Quarters' Century of Pioneering Brushes for Industry

Cedar Grove, Essex County, New Jersey

TELEPHONE Verona 8-5327

Questions and Answers

(Continued)

structor can give partial assistance and supervision.

Card tender: three days, where hand stripping is done, is usually enough training time. With vacuum stripping, two days training should be enough to allow the trainee to be assigned a section of cards with close checking and assistance by the grinder or instructor. Usually, it takes two or three weeks before the trainee can be "turned loose" on the job.

Not Much Call For Lappet and Swivel Weaves

Technical Editor:

Are lappet and swivel weaves being made at all today? If not, why? (9495)

Lappet and swivel weaves are not being made to any great extent in the U.S. today. Where they are used, they are largely for curtain materials.

We do not know why these weaves are not being used more. It may be that, being a little more difficult to produce, they do not lend themselves to mass production. Also there is apparently little demand for the novelty effects produced by the weaves.

Underframe Cleaners

Technical Editor:

How do underframe cleaners work? Is the air drawn in or blown out? How much horsepower do these systems use? (9496)

Underframe cleaners work on any spinning frame that has the necessary space above the cylinder and tape and below the bottom creelboard.

Air is blown out, and each unit is equipped with two 1/12-hp. single-phase motors.

How To Take Care Of Pressure-Sensitive Tape

Technical Editor:

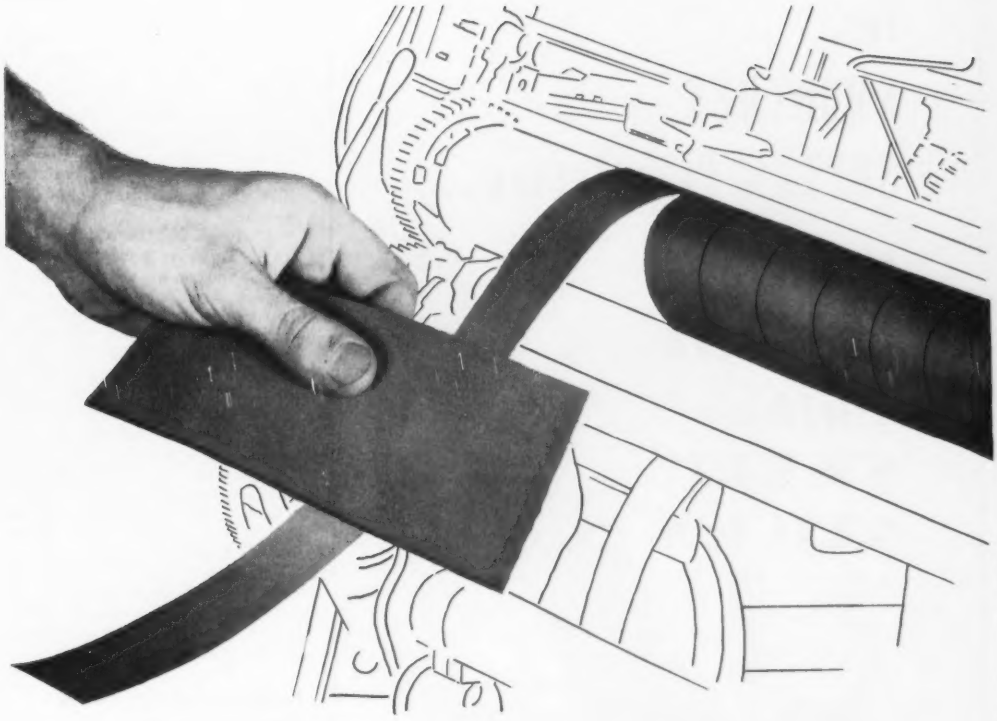
What are the best conditions for the storage of pressure-sensitive tape—the kind we use at the slasher? (9500)

Here are some rules that you should follow to keep tape properly:

1) Don't throw rolls of tape into a box or corner where the roll will be deformed, cut, or damaged.

2) Use a dispenser wherever possible. If a dispenser is not feasible, make a wooden rack to hold and protect your tape.

3) Tape should be at room temperature when used. If it has been stored in a cold room, bring it inside to stand for a while before you use it. Cold increases adhesion to the back



UP TO TWICE THE HOLDING POWER

with this new take-up roll covering

A COMPLETE LINE OF TAKE-UP ROLL COVERINGS

Whatever your preference, Armstrong can supply a wide choice of take-up roll coverings of synthetic rubber, cork and synthetic, plain or gridded cork.

You expect rubber to have good friction. Nevertheless, you'll be amazed at the grip of a newly developed take-up roll covering compound that has up to twice the friction you'd think possible with synthetic rubber. Even more amazing, you get this high friction from a surface that's smooth, smooth enough to handle the most delicate high-count material.

This new covering is known as Armstrong's NO-732. It is backed with a sturdy fabric and supplied in widths from up to 4" and in rolls up to 250 feet. A suitable Armstrong's Adhesive also is available. For samples and complete details, call your Armstrong representative or your regular source for mill supplies today. You won't believe how effective NO-732 is until you try it. Armstrong Cork Company, Textile Products Department, 8302 Arch Street, Lancaster, Pennsylvania.

ARMSTRONG'S TAKE-UP ROLL COVERS

PRODUCT OF THE ARMSTRONG CORK COMPANY, TEXTILE PRODUCTS DEPARTMENT, LANCASTER, PENNA.

For more information, write direct or use Reader Service post card.

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SMOOTHER
SOFTER Pick Action....
use
HEIM....
Unibal
SWEEP
STICKS

Write for detailed specifications on sizes and prices.

Installation is simple . . .
Prices are low . . .
Savings are great.

Assembled as an integral part of the sweepstick is a Heim Unibal Spherical Bearing to replace the usual loose fitting, oversize stud hole. Because of the longer life of this bearing, and its smooth, quiet operation, replacement of worn-out sweepsticks is less frequent and pick action is softer.

The extra yardage produced through uninterrupted operation has been sufficient in every case to pay the initial cost of the sweepsticks many times over.

THE HEIM COMPANY
FAIRFIELD, CONNECTICUT

Questions and Answers

(Continued)

ing and causes breaks during unwinding and difficulty in handling. The roll can be heated to about 100 to 125° F. for a while. This temperature range will increase the adhesive qualities of the tape but it will also reduce the tape's holding qualities. However, the holding quality will be restored when the tape cools to room temperature.

4) Avoid hot or damp storage places. Tapes are made with uncured rubber and resins. Uncured rubber tends to oxidize and become soft. Though chemicals help to prolong the useful life of tape, heat will increase deterioration materially. The same is true of moisture. Six days at approximately 150° F. and 60% r.h. is equivalent to 6 mo. storage at 70° F. and 50% r.h. The best place to store tape is in a clean cool room.

Precautions should be taken to avoid contaminations either from dirt or from chemicals. Tell your men not to leave tape around on dirty tables, shelves, or floors.

Tell them to place it carefully, not toss it, into its shipping carton. Remember, mechanical damage to the cheapest tape can make it as expensive as the costliest tape.

Polished Cotton Twine Has Varied Uses

Technical Editor:

How much polished cotton twine is used for tying meats? Also, how much colored polished cotton twine is used yearly for tying by department stores and the like? (9493)

A breakdown of the exact figures you want is hard to find. But here are some statistics that may help you.

Cordage and twine (excluding fishing cord)

	1950 Production (1,000 lb.)
Cordage	
Hard fiber	122,624
Soft fiber	30,588
Twine	
Baler	50,146
Netting	1,642
Binder	73,453
Wrapping & other	109,881

According to our information, meat tying is done more with an unpolished twine nowadays. Polished cotton twine is used in sewing brooms for household and commercial use, for tufting mattresses, for tying coil springs in innerspring mattresses, for florist twine, by furniture makers in upholstery work, on large envelopes as

"forget about desizing"

—just use soap and water!

NU-FILM, a new non-congealing warp size, washes out of the fabric with soap and water. Nothing else. And positively no enzymes! Quick, thorough rinsability. Less costly. Faster.

Eliminates shadiness, splotches and redyes due to incomplete size removal. Operates boil-off units at high speeds—some fabrics can be boiled off and dyed in the same operation. NU-FILM acts as a soil suspending agent and dye leveler.

NU-FILM produces a smooth, tough film on spun rayon blends and cottons. Replaces gelatin as a size for filament viscose yarns. Greatly reduces hard size and set marks. Virtually eliminates rayon seconds. Turns out grey fabrics with a tight closed-in appearance; smooth, supple hand—*as a trial will prove!*

NU-FILM enables you to maintain a low, comfortable humidity in your weave room and still insure high weaving efficiency even on your most difficult styles.

National Starch Products, 270 Madison Avenue, New York 16, N. Y.

National
STARCH PRODUCTS

Please Send Us!

- ☐ Nu-Film Technical data
- ☐ Nu-Film laboratory sample
- ☐ Nu-Film ____ lbs. for trial run
- ☐ National representative to arrange for a Nu-Film trial

Name _____ Title _____

Company _____

Address _____

City _____ Zone ____ State _____

Photo courtesy the Springs Cotton Mills

Right Hand Turn

Packages of textiles ride the Alvey Conveyors safely and arrive at destination with dispatch. Notable installations in important textile mills reveal how well Alvey Engineers understand the conveyor possibilities that will save time and expense in your mill. You, too, can have conveyors in your plant to accomplish important movement of materials. Set aside those costly manhandling operations. Savings quickly realized will soon pay for the Alvey equipment. Contact nearest branch office or communicate with the main office in St. Louis, Mo., today.

Everytime you manhandle a package — you add to the cost of your product—so write Alvey today. An Alvey engineer will be quick to respond. No obligation incurred.

ALVEY Engineered PACKAGE CONVEYORS

Main Office and Plant: 9305 Olive St. Rd., St. Louis 24, Mo.
Branch Sales Offices in Principal Cities.

Questions and Answers

(Continued)

a tension twine, in children's toys and games, for fishing lines, and for sewing many items that are too heavy for sewing thread.

We have been told that the business is so competitive that what was once a very useful and expensive item (and therefore profitable) has become rather unprofitable.

Books of Interest

Anti-Shrink Data For Knitted Woolens

EFFECT OF CONSTRUCTION on the Laundering Shrinkage of Knitted Woolens (PB 104 048), by Army Quartermaster Research and Development Section; Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C.; paper, 16 pages, 50¢.

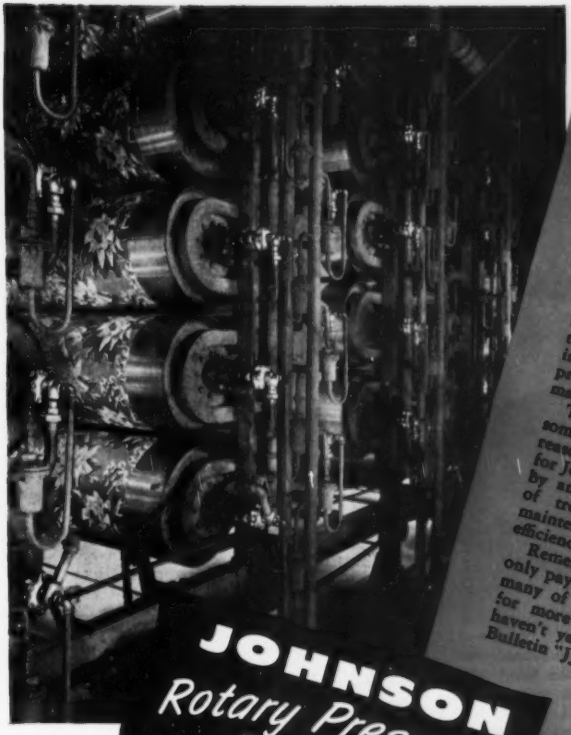
How to manufacture knitted woolens that have the least possible shrinkage when washed is disclosed in this Army Quartermaster research report now available to the public. In years gone by, the use of shrink-resistant-treated yarns in knitted fabrics did not prove effective enough for Army use. The booklet explains all the factors studied and worked out recently in the control of knitted woolens—the yarn number, the type of spinning, the amount and direction of twist, the number of plies, construction of the fabric, amount of shrinkproof treatment, etc.—so that other mills now can go out and do likewise.

British Study On Types of Dobbies

NEGATIVE DOBBY SHEDDING MOTIONS by W. Middlebrook; Emmott & Co. Ltd., 31 King St. West, Manchester 3, England; paper, 108 pages, 4 shillings (60¢).

Basic information on "negative" dobbies (harness pulled to the lower position by means of springs attached to the floor) is contained in this monograph, and American mill men close to dobby weaving may well want to obtain a copy to see what the various British setups are in the field. Keighley, Hattersley, and Northrop dobbies in particular are described, sketched, and photographed; as are the Ruti and Staubli dobbies from the Continent.

A concluding chapter deals with the



JOHNSON Rotary Pressure JOINTS

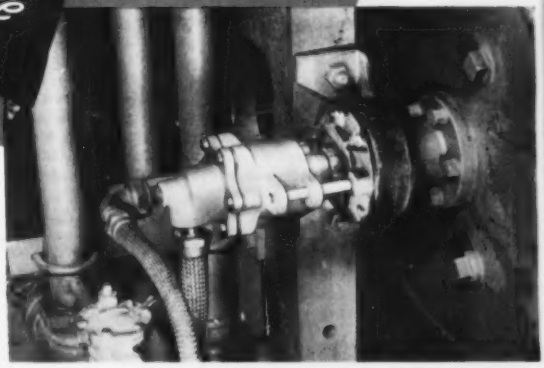
Pattern for Smooth Operation

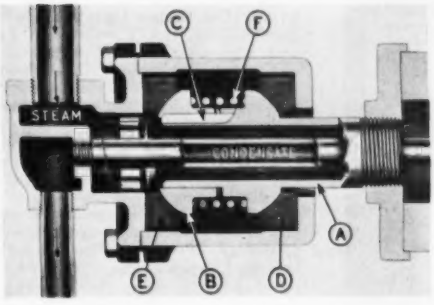
It's a well-known pattern — the use of Johnson Joints to end all stuffing box troubles. It's a pattern, moreover, that stretches throughout the textile industry, and has been adopted by practically all manufacturers of textile machinery.

The cross section view below shows some of the many good and substantial reasons. Over the years they have won for Johnson Joints a record unmatched by anything of their kind in terms of trouble-free operation, reduced maintenance and increased operating efficiency.

Remember that Johnson Joints not only pay their own way, but can free many of today's valuable man-hours for more productive work. If you haven't yet switched over, write for Bulletin "JJ" and get all the facts.

Type L2-B2 Johnson Joints on 60-can dryer in New England textile plant. Note flexible hose used for steam connections, bent copper tube connections for condensate. Close-up view is similar Type L2-B2 installation, shows cast lugs on joint body for simple rod support.





Packless, Self-Lubricating, Self-Adjusting and Self-Aligning

Nipple (A) is connected to roll. Collar (B) is keyed to nipple at (C) but fits loosely so pressure can fill entire housing. Pressure is sealing force, consequently joint is self-adjusting. Seal ring (D) and bearing ring (E) are of special carbon-graphite; they eliminate all packing or need for lubrication. Spring (F) is for initial seating only. Note room for lateral movement of rotating assembly, spherical seating for angular movement.

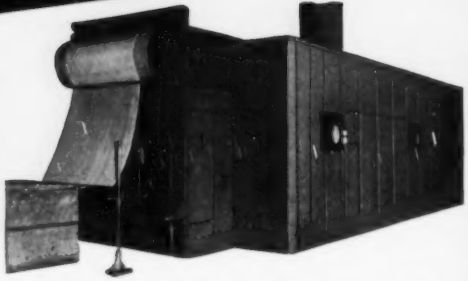
Products of The Johnson Corporation

814 Wood St., Three Rivers, Mich.

Rotary Pressure Joints • Compressed Air Separators and Aftercoolers
Direct Operated Solenoid Valves • "Instant" Steam Water Heaters

Positive control of fabric quality is engineered into the

PROCTOR LOOP DRYER



Originally used for drying washed dye-house goods and materials like toweling, this dryer has been refined over the years giving it a much wider application. Many mills handling spun rayons and similar goods that require carefully done finishing are finding this a highly efficient machine for drying or curing.

Control of fabric quality is literally engineered into the Proctor loop dryer. One refinement in design is the perfection of the air looper which in connection with accurately matched steel chain insures the formation of positive loops and continuous operation when running all types of *light- or heavy-weight fabrics.* Special asbestos covered steel tubing provides a *rigid* and *accurate* revolving girt for the support of the fabric regardless of temperature conditions. Readily accessible lint screens contribute materially to over-all cleanliness inside the dryer. *Direct connected fans and motors* provide a trouble free system to distribute air evenly across the entire width of the conveyor, resulting in even, uniform drying.

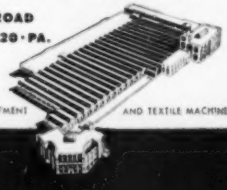
For more information on how this carefully engineered dryer can contribute to your mill's efficiency write today to:

AN INVITATION TO PATENT HOLDERS

Have you patented equipment which you have developed for your own line of business that you would care to have developed, manufactured, or sold? If such equipment comes within the line of our manufacturing and selling experience, we would be pleased to have you contact us. We will discuss the matter with you without obligation. If there seems to be a mutual advantage we may be able to realize good returns on new developments.

PROCTOR & SCHWARTZ · INC ·

710 TABOR ROAD
PHILADELPHIA 20 · PA.



MANUFACTURERS OF INDUSTRIAL DRYING EQUIPMENT AND TEXTILE MACHINERY

Books of Interest (Continued)

principal features of the American-type C & K dobbies.

New Text on Electrical Engineering

ALTERNATING - CURRENT MACHINES by George V. Mueller; McGraw-Hill Book Co., 330 W. 42nd St., New York 36, N. Y.; cloth, 502 pages, $7.50.

Intended primarily for use by senior electrical engineering students, this new text presents an analysis of the construction and operating principles of transformers, polyphase induction machines, synchronous machines, single-phase motors, and rectifiers. As such, it is a good reference also for any mill man working in the electrical end of production.

Chemistry of Adhesion Analyzed in Detail

ADHESION AND ADHESIVES by N. A. de Bruyne and R. Houwink; The Elsevier Press, 402 Lovett Boulevard, Houston, Texas; cloth, 517 pages, $10.

Textiles, like almost every other major industry, has its adhesion problems. Many of these problems are still being solved by rule-of-thumb methods that are not always satisfactory. This book attempts to give an understanding of the physio-chemical theory of adhesion as well as to explore theoretical bases, technological methods, and practicable problem solutions.

For the benefit of the mill chemist delving into the subject more deeply, many references are given to more detailed literature on specific points.

Corrugated-Box Shipments With Forked Trucks

HOW TO SAVE ON HANDLING COSTS—Cut Damage Cost, by Addison-Semmes Corp., 1800 Thurston Ave., Racine, Wis.; paper, 32 pages, $2.50.

This manual, substitled "The Addison-Semmes Plan for Faster, Easier Shipment of Corrugated Box Products," explains both photographically and mathematically how damage can be reduced and handling costs cut by the shipping of knock-down corrugated-box products on corrugated-board expendable pallets.

"Palletizing" can give considerable savings to both manufacturer and customer in this age of shipments handled with sometimes rough-wielding power fork trucks and pallet trucks, the booklet explains.

World Directory For Carpet Men

THE CARPET ANNUAL 1951, edited by H. F. Tysser; British-Continental Trade Press Ltd., 222 Strand, London, England;

Books of Interest (Continued)

cloth, 264 pages. (In USA, $4 postpaid from J. D. Griffiths, 937-A River Road, New Milford, N. J.).

This work is described as "the world's only carpet yearbook and directory." Subjects covered include a survey of world carpet manufacturing and trade, the oriental-carpet trade, technical progress and developments, contemporary carpet productions, shading problems, trade associations, and an over-all trade directory. The latter includes raw materials used and suppliers thereof; and lists machinery, accessory and mill suppliers, manufacturers, wholesalers, importers, agents, trade names, and important people in the world carpet picture.

Technical Revision Of Overfire-Jet Text

BCR AID TO INDUSTRY 500-300, Revision of Technical Report No. VII; Bituminous Coal Research, Inc., 2609 First National Bank Bldg., Pittsburgh 22, Pa.; paper, 24 pages, 50¢.

A new series of publications has been initiated by Bituminous Coal Research, Inc., to assist coal users in getting maximum satisfaction from the use of coal. It is the "Aid to Industry" series, of which "500-300" is the first. Its subtitle is "Application of Overfire Jets To Abate Smoke From Stationary Plants" and is a revision of the standard text that went through three previous editions and has become a standard for overfire-jet users everywhere.

New Dyes and Chemicals

(*Continued from page 188*)

0.50% are seldom required. One mill was able to obtain excellent results by using a 1% solution for conditioning a hard-twist ply reverse-twist yarn in which one end was regular twist and the other reverse twist.

Filkon can be applied by either a Hygrolit or Niagara machine.

Three Products Available for Nylon Knitting and Finishing

Three new products, nylon oil #82, Macco glycerine softener, and Macco pearl softener for use in nylon knitting and finishing, are now available from Mac Chemical Co., 5113 Kingston Pike, Knoxville, Tenn.

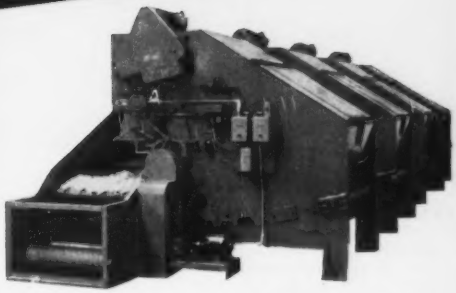
Nylon oil #82 is blended to penetrate monofilament nylon yarn for full-fashioned-hosiery machines. Use of the oil is said to reduce frictional wear on carrier tubes and needles and to produce a more uniformly knitted fabric.

Macco glycerine softener, a softening and lubricating agent for use in emulsion troughs, is also available. Five pints of the compound are used to 50 gal. of water for 30- and 40-den. yarn.

Macco pearl softener can be used on

Accurate weighings-automatically controlled with

PROCTOR WEIGHING FEEDS



The accurate weighings that are being produced automatically with late model Proctor feeds are opening up many new possibilities in the manufacture of blended fabrics. These feeds are being used in blending lines—accurately and automatically weighing components of the mix—and then farther along to feed cards with exact, predetermined amounts of stock. This results in unheard of uniformity in finished yarn . . . uniformity that is absolutely impossible when feeding is done manually or with older types of mechanical feeds.

Of course, the feeds used in blending lines differ in detail from those used for feeding cards—but are alike in the accuracy and automatic operation which is engineered into the design of each type. A further automatic feature which is part of the card feed design is the fact that it can be electrically tied in with overhead conveyors in such a way as to assure there being an ample supply of stock in the hopper at all times.

For more information on how Proctor carefully engineered feeds can contribute to your mill's efficiency and open up inew manufacturing possibilities for you, write today to:

AN INVITATION TO PATENT HOLDERS

Have you patented equipment which you have developed for your own line of business that you would care to have developed, manufactured, or sold? If such equipment comes within the line of our manufacturing and selling experience, we would be pleased to have you contact us. We will discuss the matter with you without obligation. If there seems to be a mutual advantage we may be able to realize good returns on new developments.

PROCTOR & SCHWARTZ·INC·

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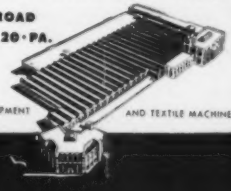
PHILADELPHIA 20·PA.



MANUFACTURERS OF INDUSTRIAL DRYING EQUIPMENT AND TEXTILE MACHINERY

For more information, write direct or use Reader Service post card.

FULLER FLOOR BRUSHES CUT COSTS BY CUTTING STROKES

With labor costs running as high as $1.25 an hour for maintenance men, the cleaning tools you put in their hands become mighty important. Supply them with Fuller Floor Brushes and cut your maintenance costs. Let one stroke do the work that formerly required two or three. With Fuller Floor Brushes you get a clean sweep with every stroke, no backtracking. You'll find a size and type to meet your every need.

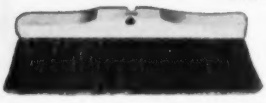
FOR SCHOOLS, INSTITUTIONS AND PUBLIC BUILDINGS

Wide-flaring ends increase sweeping surface, reach dirt in corners and along the baseboards. Pitch-set by hand. Combinations of Nylon and horsehair, also Nylon, horsehair, and fiber for moving sand and heavier soil. Long, flexible trim of material.

FOR LIGHT INDUSTRIAL CLEANING

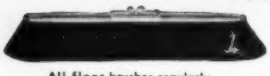
Staple-set by machine—horsehair and fiber centers, outside row all horsehair. For heavier soil all fiber centers with horsehair outside row to insure a clean sweep.

FOR ROUGH SWEEPING



Inexpensive floor brushes for use on concrete and rough floors where metal chips and heavier refuse have to be swept. Made in a variety of long-wearing, water and oil resistant fibers.

FULLERGRIPT FLOOR BRUSHES



Brush material permanently held in steel backing. Cannot shed. Open back — easy to clean.

All floor brushes regularly stocked in widths from 12" to 36". For specifications on complete line of Fuller Floor Brushes write to . . .

INDUSTRIAL DIVISION
FULLER BRUSH

At home... in business, too

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HARTFORD 2, CONN.
IN CANADA: FULLER BRUSH CO., LTD., HAMILTON, ONT.

hosiery, underwear, and knitted or woven fabrics. The agent is applied in the first wash after dyeing and is said to give an excellent finish and additional brightness to colors. The product can also be used on dyed yarn in package-dyeing machines and will not oxidize or turn yellow on any type of white yarn or fabric that is dried at a high temperature.

Naphthol Dye Has Greatly Increased Light Fastness

Napthol AS-KB has recently been added to the line of naphthols manufactured by Pfister Chemical Works, Ridgefield, N. J. The product is said to give shades similar to those obtained with Napthol AS-BS, but of greatly increased light fastness. It is further claimed that colors derived from this new napthol show a brighter blue tint than those derived from other naphthols. Napthol KS-AB, coupled with Fast Scarlet R, produces a bluish pink possessing exceptional light-fastness properties.

Twister-Ring Lubricant For Albrecht Rings

A new series of twister-ring lubricants for Albrecht rings has been developed by Borne, Scrymser Co., 632 So. Front St., Elizabeth, N. J. The product, known as Breton Ring Lubricant HSB, is available in five viscosities for the lubrication of all sizes of vertical and horizontal Albrecht rings. The product was developed in a joint research program with Merriman Bros., Inc., manufacturers of the rings.

Goodrich Announces Nylon-Sizing Agent

A new nylon-processing size, Good-Rite TS-20, for single-end or warp sizing of nylon has been developed by B. F. Goodrich Chemical Co., Rose Bldg., Cleveland, Ohio.

TS-20 is supplied as a 25% total-solids solution that may be extended easily by adding cold water. When diluted, it is ready for use; it requires no additives. The size comes in lined steel drums.

The size is said to provide a tough, flexible film that is said to protect the nylon from abrasion and soiling during the weaving operation.

Because TS-20 is water soluble, it can be easily removed in the scouring process.

Antistatic Agent Will Not Impair Colors

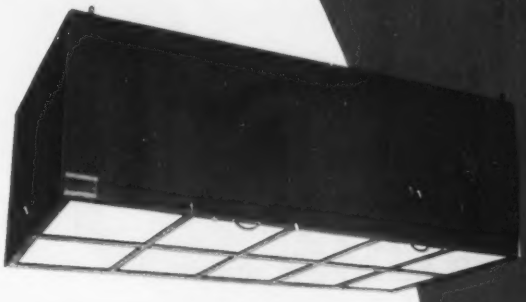
A new antistatic compound, Dextrol Lektrostat B, has been developed by Dexter Chemical Corp., Boulevard P.O. Box 1, New York 59, N. Y. The new chemical is said to have three groupings within the molecule—one that equalizes the potential difference of the charge, one that provides conductance, and another group that retains a small amount of moisture.

In trials made thus far, the chemical is said to have shown no impairment of colors. In one mill test, 8 to 16 lb. of

Announcing the New
Macbeth Super Skylights

A MAJOR ADVANCEMENT IN DAYLIGHTING FOR COLOR MATCHING

- New High Intensity North Sky Daylight
- Greater Matching Accuracy In Dark Colors
- Wider Area Diffusion
- New, Improved Design



Macbeth Super Skylight BX1014

The new Macbeth High Intensity Super Skylights BX848 and BX1014 are the latest products of Macbeth development and research.

The Macbeth Super Skylights feature a new high Intensity North Sky Daylight (2 to 3 times the intensity of standard Macbeth Daylight). Now, greatly increased color matching accuracy is possible over the complete color range and especially in the popular darker colors and in blacks.

The Super Skylights are equipped with new, improved diffusing glass for greater and more efficient light diffusion. In addition, they embody many new design refinements to increase matching accuracy and reduce maintenance requirements.

Super Skylight BX848 is recommended especially for basic color matching. Available with or without color matching booth. BX848 produces both the New High Intensity North Sky Daylight and Horizon Skylight.

Super Skylight BX1014 is recommended for use in the shading room, where material is graded or matched in considerable volume. BX1014 produces the New High Intensity North Sky Daylight and Horizon Skylight.

The illumination produced by both types of Super Skylights is correlated in intensity and quality, making it possible to standardize on the New High Intensity North Sky Daylight required for matching dark colors.

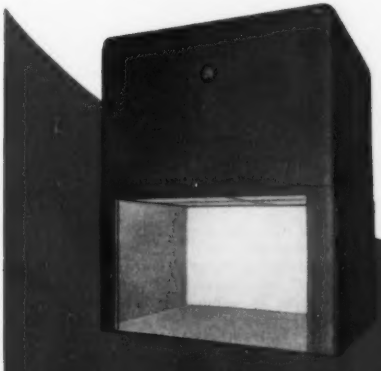
Dimensions:

BX1014: 7" x 36" x 29".

BX848: 44" [illegible]

BX848, with Booth: 44½" x 33" x 56".

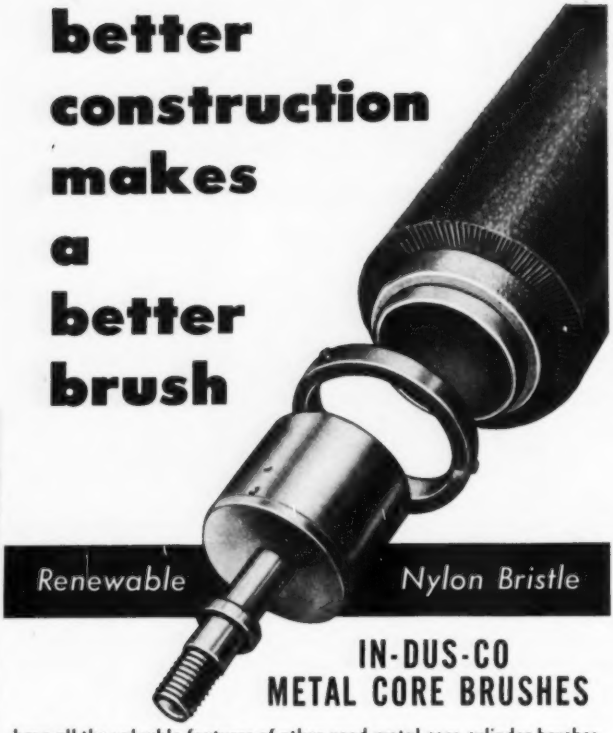
Write for Bulletin No. 157



MACBETH DAYLIGHTING CORP.
a subsidiary of the
Macbeth Corporation
Newburgh, N. Y.

For more information, write direct or use Reader Service post card.

better construction makes a better brush

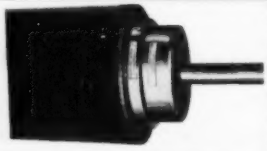


IN-DUS-CO METAL CORE BRUSHES

have all the valuable features of other good metal core cylinder brushes plus some that are distinctively their own.

Their tubular metal cores are of heavy gauge steel or aluminum and cannot bend, warp, or split as wood cores do.

The nylon bristle, evenly distributed over the face of the brush, is bound in position and permanently sealed with moisture-, acid-, and alkali-proof plastic material. No wires or other metal bindings used. The result is extreme lightness as well as rugged strength for long, efficient use, with a smooth, solid surface that means longer bristle life.



RAISING BRUSH

CAN'T STREAK GOODS—

Because of uniform, dense surface presented by nylon bristle, every bit of the nap in woolens and worsteds is raised and properly sheared. Can't streak goods as tufted brushes do.

Used by leading woolen and worsted manufacturers.

FURNISHER BRUSH

USERS SAY:

"Combines advantages of light weight, strength, and a firm bristle surface that presses evenly from end to end of the brush.

". . . . there is no tendency for unsupported bristle ends to bend or snap off.

". . . more easily cleaned after use.

". . . lasts indefinitely."

INDUSTRIAL *Brush Company*

WOODSIDE AVENUE • LITTLE FALLS, NEW JERSEY

the product to 100 gal. of size mix is said to have produced the following results in sizing of nylon warp:

Warp ends did not cling
Yarn did not stick to drying cans
Yarn quickly separated at split bars
Work stoppage was reduced
Loom efficiency was improved
Fabric was more even-appearing
Breakage, chafe marks and shiners were reduced.

Identification Tints Are Medium in Price

A new series of fugitive tints, called Solutints, has been developed by Borne, Scrymser Co., 632 So. Front St., Elizabeth, N. J. The Solutints provide identification, lubrication, and improve processing for all natural and synthetic fibers and blends. The tints combine controlled moisture retention with improved scourability, in addition to maximum tintorial strength. The tints are in the medium-price range and are recommended for low-cost operation.

Surface-Active Agent Aids in Stripping

A new surface-active agent, Decerosol SE, a product with stability, good detergent properties, rewetting properties, and surface-tension-lowering characteristics, has been developed by American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.

The new agent is said to have proved efficient in stripping vat-dyed rayon and cotton fabrics and in stripping metallized dyes from wool. In applying metallized dyes to wool, Decerosol SE permits a reduction of as much as 50% in the amount of sulfuric acid in the bath. When used with a suitable non-ionic surface-active agent, it is said to reduce scumming of the dye baths, increase the color value, improve dye leveling, and to reduce crocking.

The new product is an active detergent in acid media, in hard water, and in salt solutions. It is also an effective cationic scouring agent for wool and other fibers.

The product can also be used as a wetting agent. When applied to cellulosic materials and other negatively charged products, it reverses the normal negative surface charge to produce a positive surface charge. The products, thereby, become substantive to anionic materials.

Five New Dyestuffs Announced by General

Five new dyestuffs for dyeing and printing have been developed by General Dyestuff Corp., 435 Hudson St., New York 14, N. Y.

Fastusol Brown 5 GA is a direct dyestuff recommended for yellowish brown shades on cotton and rayon with good to excellent lightfastness. It is especially suited to rayon dress goods that are to receive an anti-crease finish to be discharge-printed, or to be aftertreated for improvement of light- and washfastness. This new brown is also suitable for use on silk. The product produces shades with fairly good (4) fastness to

NAPHTOLATE SOLUTIONS

another member of the naphtol family...

Many of the more important Naphtols are now available in solution form.

These solutions have all the attributes of the parent Naphtols from which they are derived.

Naphtolate Solutions save time, labor, solvents and oil.

The practical advantages of Naphtolate Solutions are obvious.

Naphtolate Solutions are well worth investigating.

Our nearest office will supply the information.

GENERAL DYESTUFF CORPORATION

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BOSTON • CHARLOTTE • CHICAGO • PHILADELPHIA • PORTLAND, ORE. • PROVIDENCE • SAN FRANCISCO

Bogged down by slow collections?

The slow-down in your collections, and many requests for dating, mean increased credit risks, more credit handling . . . and financial problems.

With sales lagging due to heavy retail inventories, you may be looking for new customers. But new customers mean still greater credit problems, and strain on your working capital.

We take the burden of credit handling and the risk of credit losses off your shoulders. And, by speeding the turnover of your present working capital, we help you keep old friends and make new ones.

WILLIAM ISELIN & CO., INC.

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FOUNDED IN 1808

light on cotton and silk and very good to excellent (6 to 7) fastness to light on rayon. This lightfastness is unaffected by acid treatment.

Celliton Black BGA for printing is a new dyestuff designed for printing black and gray shades on acetate fabrics. It may also be used as a blue-black on nylon by use of the formulation for acetate. This new dyestuff is characterized by superiority over most printing blacks in resistance to sublimation and in freedom from speck formation when prints are steamed. The neutral black print obtained on acetate display is good (5) fastness to light, and fair (2) fastness to washing.

Celliton Fast Violet 6BA-CF for printing is a straight, dispersed, anthraquinonetype dyestuff for printing acetate and nylon fabrics. It produces a very bright bluish-violet shade on acetate of good lightfastness. Shades of prints on nylon are bluer than on acetate, but equally good tinctorially.

Indanthrene Brilliant Green B double extra paste fine is a straight anthraquinone vat dyestuff, standardized for screen and roller printing. It produces bright bluish-green shades of good tinctorial value on cotton and rayon with very good (6) fastness to light in tints and excellent to maximum (7 to 8) fastness in full shades. The wetfastness of these prints is also superior, and fastness to severe washing is excellent.

Celliton Fast Pink BA-CF is a straight, dispersed type of anthraquinone dyestuff for direct dyeing of bright, fast to light pink shades on acetate textiles. It is also useful for dyeing nylon. Very good to excellent (6 to 7) fastness to light in full shades on acetate are obtained.

Surface-Active Agent Has Excellent Wetting Properties

Nekal BX High Conc., an anionic surface-active agent, has been developed by Antara Products Div., General Dyestuff Corp., 435 Hudson St., New York 14, N. Y. The product is said to have excellent wetting, penetrating, dispersing, stabilizing, and emulsifying properties.

The product dissolves readily in hard or soft water to give clear, stable solutions that are neutral in reaction. It can be used with low concentrations of most salts. It is not recommended in mercerizing liquors, solutions of fire-resistant finishes, or magnesium-sulfate loading finishes.

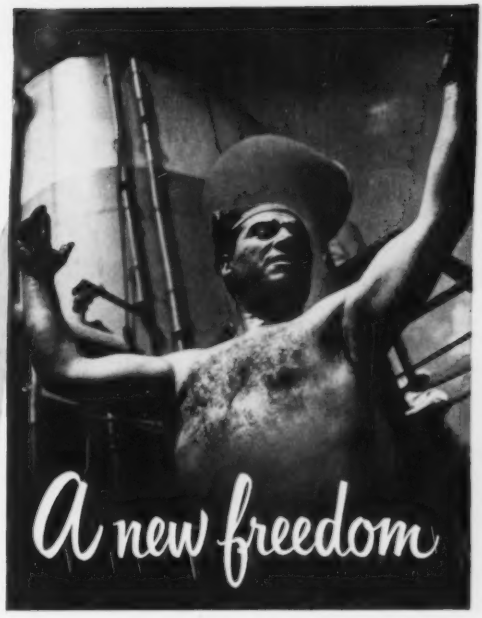
The product is highly resistant to hydrolysis by acid or alkali, even at the boil. It can be dissolved in the hardest natural water without precipitation or loss of efficiency.

New Water Repellent Improves Hand of Fabric

Setole H-59, special conversion of a root-starch complex for building up the "hand" of water-repellent fabrics, has been developed by Warwick Chemical Co. Div. of Sun Chemical Corp., 10th St. and 44th Ave., Long Island City 1, N. Y.

The fabric, after jig dyeing, is batched,

Across the face of the World a new Freedom spreads . . . like a strong man's smile . . . a Freedom from heavy burdens . . . a Freedom from beastly toil . . . a Freedom from useless costs . . . a Freedom from waste and spoil . . . It is a Freedom brought by Machines . . . and by Methods created by Men who engineer history for the greatest good of their Kind.



IN A WORLD divided by Iron Curtains and conflicting ideologies, it is refreshing to contemplate a better tomorrow made possible by a new-found freedom available to all—the Freedom from Toil, a Freedom springing from the use of modern machines.

The Clark Equipment Company is proud to have contributed to the emancipation of the laboring man through the development and creation of machines to bear his most exhausting physical burdens.

Ⓐ Electric-Powered HAND TRUCK with Stacker. Ⓑ TRUCLOADER with CRANE Attachment—1000 lb. cap.—gas or electric power. Ⓒ CLIPPER with RAM Attachment—2000 lb. cap.—gas or electric power. Ⓓ CARLOADER with BARTEL Device—3-4-5000 lb. cap. gas or electric power. Ⓔ YARDLIFT with SHOVEL Attachment 2-4-6000 lb. cap. gas power only. Ⓕ UTILITRUC with CLAMP Attachment 6-7-10,000 lb. cap. gas or electric power. Ⓖ YARDLIFT—150 with Standard Forks 15,000 lb. cap. gas power only. Ⓗ CLARKTOR—100-10,000 lb. draw bar pull. Ⓘ CLARKTOR—47 to 104 tons hauling capacity on level. Ⓙ CLARKETTE—5-10 tons hauling capacity on level. Ⓚ CLARKAT—42 to 58 tons hauling capacity on level. Ⓛ TRUCTRACTOR—Dump model 4000 lbs. capacity. Ⓜ TRUCTRACTOR—Tip-model 4000 lbs. capacity.

CLARK ELECTRIC AND GAS POWERED FORK TRUCKS
AND POWERED HAND TRUCKS · INDUSTRIAL TOWING TRACTORS

These Clark publications will help you and your workmen to enjoy the many benefits of this New Freedom. Any one—or all—of them will be sent to you upon request

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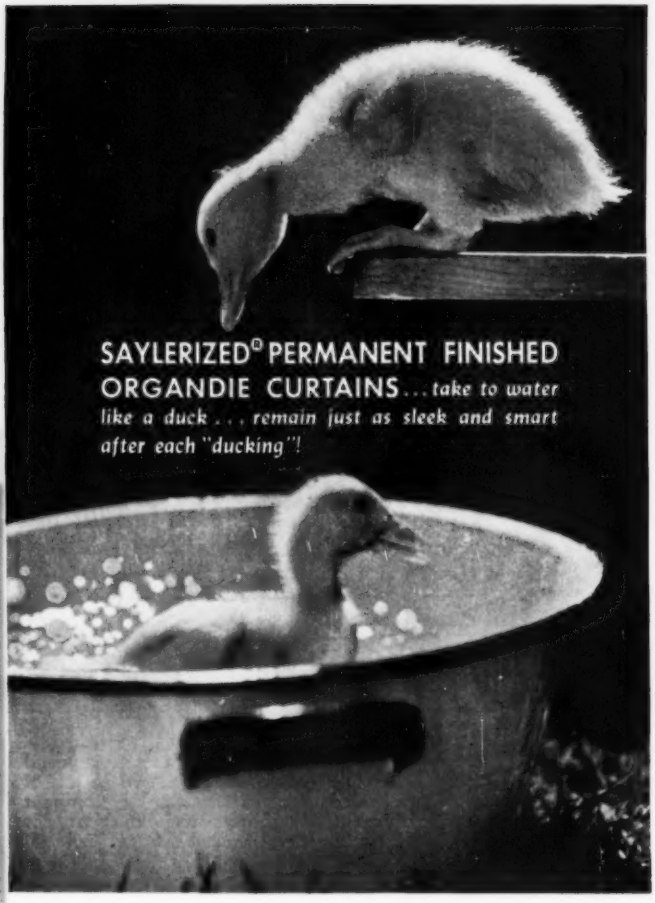
SAYLERIZED® PERMANENT FINISHED
ORGANDIE CURTAINS... take to water
like a duck... remain just as sleek and smart
after each "ducking"!

WHY SAYLERIZED ORGANDIE CURTAINS ARE AMERICA'S FAVORITE

Because they're lovely, practical, and economical, Saylerized Permanent Finished Organdie Curtains are first choice of millions of women from coast to coast. Saylerized organdies launder to perfection with practically no care. No starching, no stretching required... they always remain rustling-crisp and new-looking, even in damp weather. Because they are free of sticky, dust-inviting starch, they actually repel soiling, require fewer launderings, wear much longer. Ideal for seashore cottage... country home... town house... or modern apartment... Saylerized Organdie Curtains are everything that women want for the window beautiful.

Sayles

SAYLES FINISHING PLANTS, INC.

Established 1847

SAYLESVILLE, RHODE ISLAND

New York Office: 72 Leonard St

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and then immersed in the necessary concentration of Setole H-59. It is then squeezed and dried before passing through the required concentration of Impregnole water repellent.

Powdered Starch Conditioner Improves Production, Reduces Shedding

A new cotton-sizing agent, Houghto-Size 475, which is supplied as a white, granular powder, has been developed by E. F. Houghton & Co., Philadelphia, Pa.

Houghto-Size 475 is a one-piece product that contains all ingredients required to soften and condition starch film and to produce a warp that will weave satisfactorily and with high efficiency. No gum or builder need be added. Houghto-Size 475 is said to add to the binding power of size and to reduce shedding on both slasher and loom.

The powder form of the new size is said to facilitate its handling.

From 3 to 5% of the size based on the weight of the starch is said to be sufficient to handle all conditions. The various components of the size combine with the starch to produce a warp that has excellent flexibility, good elongation, and smoothness.

Cleaning Agent Suited to Cupra, Cupra-Wool Blends

A new laundering product for cleaning, washing, and milling of cuprammonium rayon and cupra-wool blends has been developed by Farben-Fabrik Bayer Leverkusen, Germany. The product, Levapon WK, is a brown, viscous paste that is easily soluble in water. It is said to have a good laundering effect and to impart smoothness and flexibility to the fabric treated. The solution reacts neutral and is anion-active.

Penetrant Useful in Plisse Work

Eumercin HRC, a substituted cyclic penetrant, is being produced by the Warwick Chemical Co., Div. of Sun Chemical Corp., 10th St. & 44th Ave., Long Island City 1, N. Y.

This product is effective in caustic soda solutions of approximately 90° Tw. It can be used effectively in plissé work.

Synthetic Wax Improved And Price Reduced

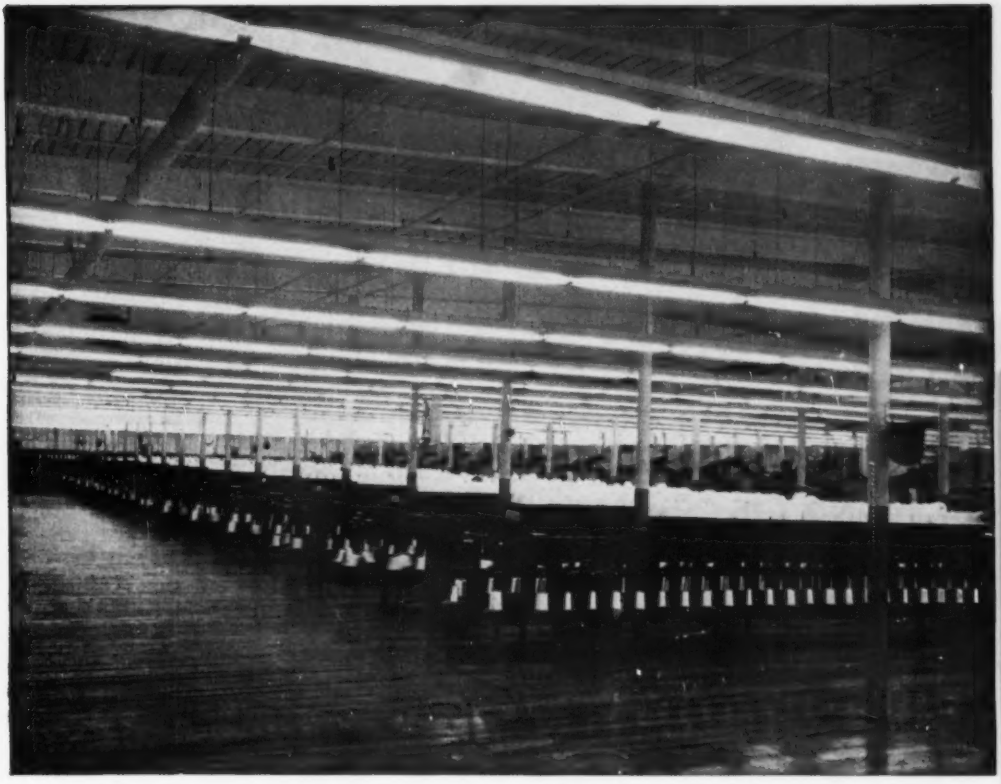
Acrawax C, a synthetic wax with a high melting point, 140 to 142° C., has been improved in color stability toward heat. The wax, a product of Glyco Products Co., Inc., 26 Court St., Brooklyn 2, N. Y., has also been substantially reduced in price.

Acrawax C is a light tan, hard wax that is supplied in atomized, powdered, and coarse-ground forms, as well as in solid form. In many instances, it is necessary to melt it, either alone or with other waxes, resins, etc. In the new improved grade, the darkening is said to be definitely minimized. Acrawax C can be used as a mold-release agent, lubri-

For more information, write direct or use Reader Service post card.

ABBOTT MACHINE

INSTALLATION OF AUTOMATIC RAYON QUILLERS



Twelve Abbott Automatic Rayon Quillers with Pinboard Attachments are run by only *six* operators in the above mill installation. Such an efficient installation achieves lowest operating cost with maximum production per operator.

Empty loom bobbins are automatically loaded and filled. Full loom bobbins are automatically doffed onto pinboards, which permits one operator to handle up to 240 spindles.

Abbott Quillers offer the lowest investment cost in the automatic winding field.

One of our representatives will be glad to study your filling winding requirements and submit a proposal for your consideration.

ABBOTT MACHINE CO., INC.

FACTORY AND MAIN OFFICE:
WILTON, NEW HAMPSHIRE

SOUTHERN OFFICE: GREENVILLE, SOUTH CAROLINA

Good News!

Jute mills in India are turning out growing supplies of BURLAP, including the famous ANGUS BURLAP.

Steady, increasing shipments are coming to Bemis ... the only importer of ANGUS.

AND THE PRICE IS DOWN

Ask your Bemis Man for the up-to-the-minute news about BURLAP.

Economy Suggestion: Buy wider widths ... 60", for instance ... which Bemis imports. You get important labor cost savings in unloading, bale-opening, splitting, etc. Often there is less waste.

Get the Good News, too, about BEMIS TITE-FIT TUBING,

the bias-sewn burlap tubing for economical packaging of bulky or odd-shaped products.

Check Tite-Fit Tubing seams. You'll find NO WASTAGE. Then compare with other bias-sewn tubing ... compare the yardage required for any given job. You'll find the real economy is in Bemis Tite-Fit Tubing. Depend on Bemis—originators of bias-sewn tubing.

Bemis

BEMIS BRO. BAG COMPANY

Baltimore • Boise • Boston • Brooklyn • Buffalo • Charlotte • Chicago Cleveland • Denver • Detroit • Houston • Indianapolis • Jacksonville, Fla. Kansas City • Los Angeles • Louisville • Memphis • Minneapolis • Norfolk New Orleans • New York City • Oklahoma City • Omaha • Philadelphia Phoenix • Pittsburgh • St. Louis • Salina • Salt Lake City • San Francisco Seattle • Vancouver, Wash. • Wichita

cant, moisture- and salt-spray-resisting agent, water repellent, antistatic agent, etc.

New Process Gives Brilliant Blue Shade

A new dye, Phtalogenbrilliantblau F3G (Phtalocyanine dye, vivid blue), has been placed on the German market by Farben-Fabriken Bayer, Leverkusen, Germany.

Formation of this new dyestuff is based on the reaction for new phtalic-acid derivative with a copper sulfate. The reaction is released by heat or steam. A blue color of extraordinary vividness is said to result. Other interesting shades can be achieved with other metal sulfates, as nickel sulfate.

This process, aside from the brilliant shade produced, is said to give high fastness especially to light.

The applied solvents and the subjects of reaction have to be selected and synchronized in such a manner that there will be not too quick a reaction of the printing dye, since this may lead to a premature cracking of the dye.

At the moment, only Phtalogenbrilliantblau F3G is available commercially. The dye is sold either directly by Bayer Leverkusen or it can be obtained from importers of dyes.

New Wetting Agent and Softener Announced

Two new esters of sodium sulfosuccinic acid of interest to the textile industry are now being offered in trial-lot quantities by the American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y. These surface-active agents are homologues of the well-known bis (2-ethylhexyl) sodium sulfosuccinate (Aerosol OT) in which the 2-ethylhexyl group is replaced by higher molecular weight groups as follows:

Surface-active Agent BO—Bis (2-butyloctyl) sodium sulfosuccinate.

Surface-active agent BPE—Bis (2-p-tert.-butylphenoxyethyl) sodium sulfosuccinate.

Both agents have low solubility in water and high solubility in organic compounds. They are recommended for producing stable oil-in-water emulsions and for dispersing solids in organic or aqueous media.

Agent BO is effective as a textile softener at low concentrations. Agent BPE is a good wetting-out agent in textile processing and may be effective for increasing the absorbency of various paper products. It is also an effective wetting agent at elevated temperatures.

Primary Aliphatic Amines Have Textile Uses

Three new, high-molecular-weight aliphatic amines and a new amine acetate have been developed recently by Rohm & Haas Co., Philadelphia, Pa. At the same time, the prices of the previously announced members of the series have

EFFECTIVE PENSIONS

A Problem Common to Both MANAGEMENT and LABOR

BOTH MANAGEMENT AND LABOR are seeking the best method of solving the retirement problem. A real measure of financial security is the goal, but there is no standard method for achieving this goal. The great variation in earnings and working conditions in companies and trades create the need for different approaches to the common problem.

Our Pension Trust Division has acquired a unique experience in developing all types of pension systems for a great number of trades and businesses. This experience can be invaluable in working out a pension plan to fit the income and employee benefit requirements of your company. We shall be glad to discuss with you any pension problem you may have, including pension costs. No obligation whatever.

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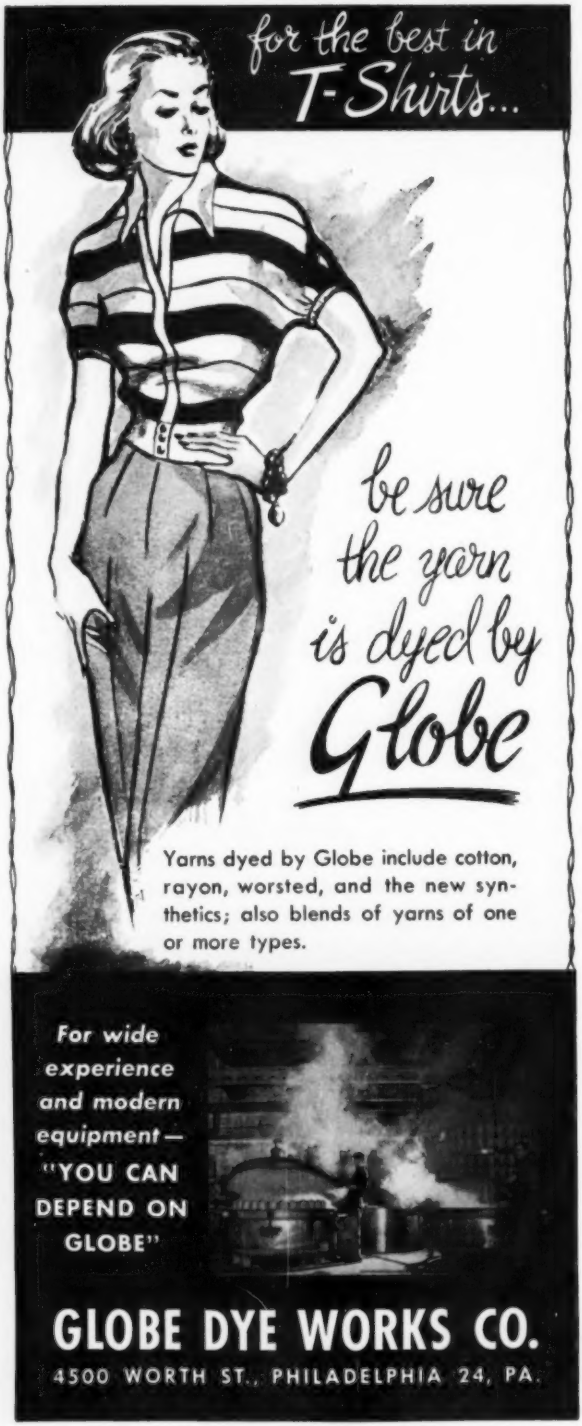

for the best in
T-Shirts...
be sure
the yarn
is dyed by
Globe
Yarns dyed by Globe include cotton, rayon, worsted, and the new synthetics; also blends of yarns of one or more types.
For wide experience and modern equipment—
"YOU CAN DEPEND ON GLOBE"
GLOBE DYE WORKS CO.
4500 WORTH ST., PHILADELPHIA 24, PA.

been reduced by 10 to 15¢ per lb., or 15 to 20%.

The new amines are designated Alkylamine JM-R, Alkylamine JM-T, and Alkylamine 81-T. Alkylamines JM-R and JM-T are refined and technical grades of a tertiary alkyl amine averaging 18 carbon atoms in length. The new amine acetate is the derivative of Alkylamine JM-T. Alkylamine 81-T is a technical grade of the previously announced Alkylamine 81-R, a refined tertiary alkyl amine containing 12 to 15 carbons. Also available in the series is tertiary octylamine, an eight carbon, refined grade.

The alkylamines are all highly branched amines, and have the tertiary-alkylamine (tertiary-carbinamine) structure, in which the nitrogen atom is directly attached to a tertiary-alkyl group. With the exception of tertiary-octylamine, which is a pure compound (2,4,4-trimethyl-2-amino-pentane), all are mixtures of isomeric products. The branched-chain structure imparts distinctive properties, among which are: improved solubility in paraffine solvents (where straight chain amines tend to jell), improved surface activity of the salts, and improved handling properties of the amines and their salts. For example, all the amines are clear, fluid liquids, easily poured at all temperatures, while Alkylamine JM-T Acetate is a rather viscous liquid. The refined amines are light amber, while the technical grade products are reddish-brown.

Color Stability Is Excellent

The tertiary-alkyl structure also modifies the reactivity of the amines, and the chemical properties of reaction products. Unique examples are the stable, distillable azomethines obtained by reaction with formaldehyde, and the stable t-alkylcyanamids obtained by reaction with cyanogen chloride. Reaction of the amines with such products as alkyl halides, acrylonitrile, and acrylate esters can be easily controlled to obtain monosubstitution and mono-addition products, substantially free from the disubstituted products. The higher amines are less reactive than tertiary-octylamine in substitution and addition reactions, although ionic reactions, such as salt formation, occur readily in all cases.

In addition to the applications mentioned above, these amines should be considered as such, or as intermediates, in the fields of bactericides, fungicides, wetting agents, detergents, textile-finishing agents, emulsifiers, stabilizers, and for the introduction of oil-soluble groups into anti-oxidants and other oil additives.

Answers to Textile Quiz Appearing on Page 192

1. b [TW, Dec. '51, p. 106]
2. b [TW, Dec. '51, p. 109]
3. c [TW, Dec. '51, p. 110]
4. d [TW, Dec. '51, p. 118]
5. a [TW, Dec. '51, p. 121]
6. c [TW, Dec. '51, p. 126]
7. b [TW, Dec. '51, p. 136]
8. d [TW, Dec. '51, p. 138]
9. a [TW, Dec. '51, p. 248]
10. a [TW, Dec. '51, p. 250]

"The Odds are 4 to 1

You Can Cut Your Painting Costs With The On-The-Wall Test"

Figure it this way. Labor represents 80% of the average cost of maintenance painting . . . four times the cost of the paint. So if you're looking for savings . . . real savings . . . make this simple test.

Take two equal wall areas in your building and let your painter paint one with Barreled Sunlight and the other with any other good brand of paint . . . both paints thinned according to directions, of course. Clock the time it takes to paint each area and see how much faster and better your painter can work with Barreled Sunlight. Project the time he saves with Barreled Sunlight into terms of a complete painting job, and you'll realize that you can enjoy the long-lasting quality of famous Barreled Sunlight *and still save money on your painting costs.*

Yes, you may pay a little more per gallon for Barreled Sunlight but it will go farther and faster on the wall. It will give you a better-looking, longer-lasting paint job *for less money than any other paint on the market.* Let our representative help you make this money-saving test. Write and he'll call.

BARRELED SUNLIGHT PAINT COMPANY, 20-B Dudley St., Providence, R. I.

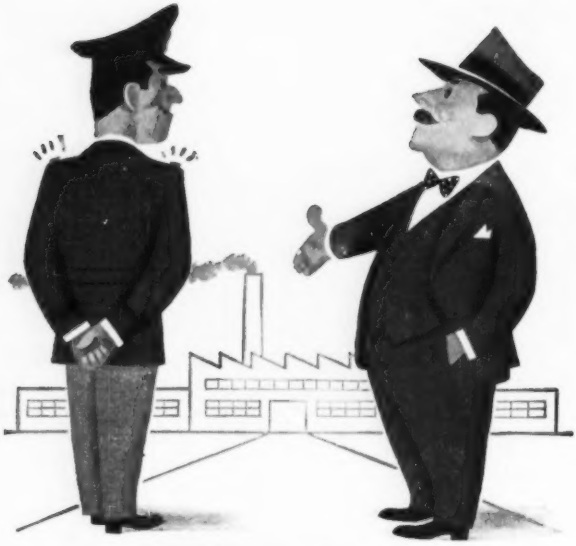
Barreled Sunlight ®

Paints

In whitest white or clean, clear, wanted colors, there's a Barreled Sunlight Paint for every job

IT ALWAYS COSTS MORE NOT TO PAINT!

For over half a century the symbol of quality and dependability among paint buyers for leading industrial, institutional and commercial buildings



on a business tour... his investment's secure

With today's extended delays in replacements, dollars mean less and less protection, when fire strikes. No chance of extensive cutbacks in vital production, loss of day-to-day revenue or decrease in customer good will, when your investment in materials, equipment and buildings is fully protected from the ravages of fire with efficient, quick-acting C-O-TWO Fire Protection Equipment.

No matter what your property . . . factory, mill, warehouse, power station or research center . . . or a particular fire hazard such as spray booth, dip tank, pump room, electrical equipment enclosure or record vault . . . there is a type of C-O-TWO Fire Protection Equipment that gives you fast, positive action the instant fire strikes. Whether it's a C-O-TWO Squeez-Grip Carbon Dioxide Type Fire Extinguisher for an incipient fire, or a C-O-TWO Built-In High Pressure or Low Pressure Carbon Dioxide Type Fire Extinguishing System for total flooding an entire fire hazardous area . . . C-O-TWO means experienced engineering that assures you of the best type equipment for the particular fire hazard concerned.

For example, at many locations a C-O-TWO Combination Smoke Detecting and Fire Extinguishing System is a "must." The first trace of smoke in a protected area sounds an alarm . . . then fast, clean, non-damaging, non-conducting carbon dioxide blankets the fire, putting it out in seconds, before it spreads and causes extensive damage . . . no after fire mess, no water damage with carbon dioxide.

So, whatever your fire protection problem, let an expert C-O-TWO Fire Protection Engineer help you in planning complete and up-to-date fire protection facilities now. Write us today . . . tell us about your particular fire hazards . . . no obligation.

C-O-TWO

C-O-TWO FIRE EQUIPMENT COMPANY

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Sales and Service in the Principal Cities of United States and Canada

Affiliated with Pyrene Manufacturing Company

MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeez-Grip Carbon Dioxide Type Fire Extinguishers • Dry Chemical Type Fire Extinguishers
Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems
Built-In Smoke and Heat Fire Detecting Systems

Overseas Picture

(*Continued from page 122*)

the business world than did the newer textile-manufacturing countries, even though they may have been more efficient than ever before.

World-wide output was caught between the advantages of generally improved plant facilities, unsatisfied consumer demand, ECA financial aid, and U. S. technical assistance—and the disadvantages of uncertain raw-material prices throughout the year, international disagreements and compromises, expensive rearmament demands, and consumer price resistance. But in the final analysis, more of the world's peoples were better clothed at the end of 1951 than in 1950.

Each country had its highly individual problems in getting production going better. The many difficulties involved cannot be described in detail in an introductory summary. So given below are brief résumés of what went on in the major manufacturing countries during the year, many of them digests from recent McGraw-Hill World News reports and other sources.

Thanks to material, financial, and technical assistance last year, most of the world's countries are looking forward to improved textile-manufacturing days and months ahead. Full-scale war alone can stop the march upwards.

Australia—The U. S. is the foremost buyer of Australian wool valuewise, while the U. K. still leads quantitywise. At the turn of the year, several large Australian mills were running only part-time. Orders were cancelled in several instances for large amounts of machinery and auxiliary equipment.

Suspension of duties on imported rayon was announced to be abolished. Stiff rayon tariff rises are expected. 1951 woven rayon production was 11,560,000 yd. Allocation of dollars for import of U. S. raw cotton is expected.

A Lancashire, England, rayon-weaving firm, Carrington & Dewhurts, plans to establish a manufacturing branch in Victoria. The large acetate and rayon spinning plant of Courtaulds Ltd. located at Tomago, New South Wales, is starting up soon. By the end of 1953 full operation is expected. The staff is being trained in England. Extensive work has been done by Courtaulds on producing viscose rayon from native hard eucalyptus woods.

British Celanese Ltd. is setting up an acetate-filament plant at Geelong with a planned capacity of 30,000,000 lb. per annum.

Austria—Edwin L. Skipper, Lancaster, S. C.; Harris E. Stocker, New York; and Eric A. Schwarz, Trenton, N. J., have been in Austria 60 days studying increased production efficiency and man-hour output in Austrian mills.

Annual textile exports increased from

For more information, write direct or use Reader Service post card.

ANOTHER DOW CORNING SILICONE PRODUCT

DeCetex 104

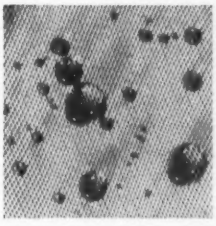
the most durable water-repellent for synthetic fabrics

Here's the kind of durability you have been looking for in a water-repellent treatment for synthetic fabrics. Materials that have been the most difficult to treat—acetate, viscose, nylon, Orlon, Dacron and mixtures of natural and synthetic fibers—can now be given a durable water-repellent finish. And by durable, we mean a treatment that will retain a spray rating of 90 to 100 after 10 dry cleanings; 80 after three 2-hour launderings.

There's no change in porosity, color or colorfastness. The silicone finish is free from mark-off; it imparts a full, soft "hand" and it has a stabilizing effect on some materials.

Furthermore, DeCetex 104 is easily and inexpensively applied from a water emulsion with conventional equipment. You do not have to wash or neutralize the treated fabric and it remains odorless even after aging.

In an ounce of DeCetex 104 you get millions of invisible silicone umbrellas that don't fold up after the first two or three dry cleanings. If you are not already familiar with DeCetex 104, write for technical data sheet AJ-14.



This DeCetex treated fabric looks and feels like any ordinary nylon marquisette with a weave as open as a window screen. But water rolls over the fabric unable to wet the fibers.

She's wearing her umbrella of DeCetex treated rayon skarkskin. All she has to do is brush the little droplets off her suit, and she'll be as dry and look as fresh and neat as ever.

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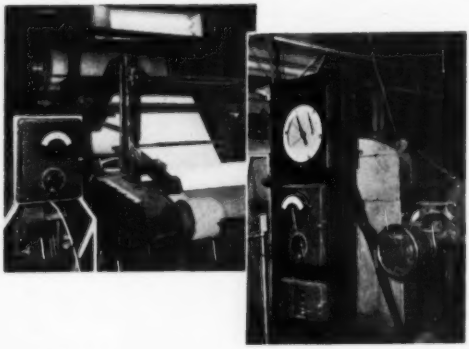
FIRST IN SILICONES
DOW CORNING CORPORATION
MIDLAND, MICHIGAN

Fielden INSTRUMENTS AND CONTROLS

FULTON BAG & COTTON MILLS

Increase FINISHING RANGE PRODUCTION from 50 YARDS to 125 YARDS per minute



Recently Fulton Bag & Cotton Mills of Atlanta put a Drimeter Moisture Indicator on a finishing range consisting of a backfill machine, gas fired tenter frame and calender.

Goods had been customarily coming off the range at the rate of "50 yards a minute" states Fulton Bag & Cotton Mills.

Then a Fielden Drimeter was installed. Running at 50 yards a minute the cloth was bone dry. Speed was then increased. "When 5% moisture content was reached which gave the desired quality," states Fulton Bag & Cotton Mills, "the frame was running at 125 yards a minute."

Then an automatic speed controller was added. With the Fielden Drimeter "to find the correct machine speed and the automatic speed controller to maintain it, the 150% gain in production was steadily maintained," states Fulton Bag & Cotton Mills.

Workers liked the Drimeter, too. They found the control easy to set and had more time for other important phases of their work.

Other Fielden Drimeters have been installed on slashers, dyeing machines, laminating equipment. "Drimeter has been tried on several other drying operations in the plant and found to be accurate in every application made of it, and it is planned to place Fielden moisture controls as standard equipment at various places throughout the plant," states Fulton.

You, too, can improve quality and production by using Fielden Drimeters and Automatic Controls. Write today for illustrated literature.

Fielden **INSTRUMENT CORPORATION**
2090 NORTH 4TH STREET
PHILADELPHIA 33, PA.

a subsidiary of:
ROBERTSHAW-FULTON CONTROLS CO.
Canadian Agent: **ELECTRODESIGN, 145 Normand St., Montreal**

500,000,000 to 760,000,000 schillings between 1948 and 1951.

While production of cotton and wool yarns dropped between 1937 and 1950, rayon-staple output rose from none to 62,000,000 lb., or more than half the total production of all yarns. 1951 rayon-staple production is now seen as 80,000,000 lb. A million pounds a month or more is going to the U. S. as a needed dollar earner.

Zellwolle Lenzig A. G. supplies one-third of Austrian rayon production.

Belgium—No figures are available on the number of spindles and looms on the various fibers used in Belgian mills.

There is a definite gap between the amount of American textile machinery being made available to Belgium and what could be sold in Belgium, it is reported. Belgium has enough dollar credit to finance long-term machinery replacement in the U. S. if it so desired.

Brazil—The 2,500,000-bale annual pre-1941 crops of cotton have now dropped to 1,500,000 bales per annum because of diversification to coffee and foods. The supply of cotton from Argentina dwindled during 1951 because of shorter Argentine crops that were used almost exclusively in Argentina.

Brazil spent $125,000,000 on new textile machinery in 1950.

Almost half of Brazilian spindles are in São Paulo State. These consumed 188,000,000 lb. of cotton in 1950. About 36% of the 1950 total piece goods were woven in the State.

A 200,000-lb.-per-mo. jute spinning and weaving mill at Manaus on the Amazon has been established. Self-sufficiency in jute is looked for this year.

Britain—British Celanese Ltd. is building a £2,000,000 rayon-yarn plant at Wrexham in North Wales. About 4,000 people will be employed on completion of the plant in three years.

Courtaulds Ltd. is building a $10,000,000 50,000,000-lb.-per-yr. rayon-staple plant at Huntsville, Ala., 20 miles north of Mobile. Production is expected to start next year.

Considerable satisfaction has been felt in Britain over improved labor availability. In many cotton mills wages have been raised and conditions made more favorable to attract new help.

The change in government last fall was welcomed throughout textile-manufacturing circles.

British textile woes include: (1) re-establishment of a freer-playing domestic textile-price mechanism, (2) the specter of Japanese textile resurgence in foreign markets, and (3) the re-establishment of a viable Liverpool cotton market.

British East Africa—Work has begun on the construction of a "vertical" cotton mill, from opening to finishing, at Jinja, Uganda. In due course, the manufacture of 27,000,000 yd. a year is planned, giving employment to 6,000 Africans.

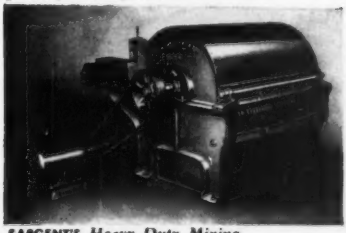
Burma—Burma has been receiving ECA aid

FOR CONTINUOUS HIGH-PRODUCTION TOP-QUALITY CLEANING...

SQUIRREL CAGE DUSTER by SARGENT

SARGENT'S *Ceiling Condenser — Model 20, single cylinder, 18" or 36" diameter cylinders.*

SARGENT'S *Automatic Feeder for scouring machines, openers, pickers, dusters, etc.*



SARGENT'S *Heavy Duty Mixing Picker — rugged, high-production unit.*

SARGENT-designed for continuous dusting of card waste, grease wools, carpet wools . . . highly efficient for blending . . . absolute minimum of broken fibres . . . variable speed control . . . available with enclosed housing and exhaust fans for removal of dust as it is separated from fibres . . . DUSTER may be set on sub-base with drag conveyor for continuous dust removal from under machine . . . the ideal line for peak, quality production consists of bin-type feeder, mixing picker, SQUIRREL CAGE DUSTER and ceiling condenser.

UNIFORMLY OPENED AND CLEANED WOOL MEANS EASIER, LESS EXPENSIVE SCOURING AND BETTER CARDING

SINCE 1852

LARGEST MANUFACTURERS OF STOCK DRYING AND WOOL WASHING EQUIPMENT IN AMERICA

C. G. SARGENT'S SONS CORPORATION

Graniteville, Massachusetts, U.S.A.

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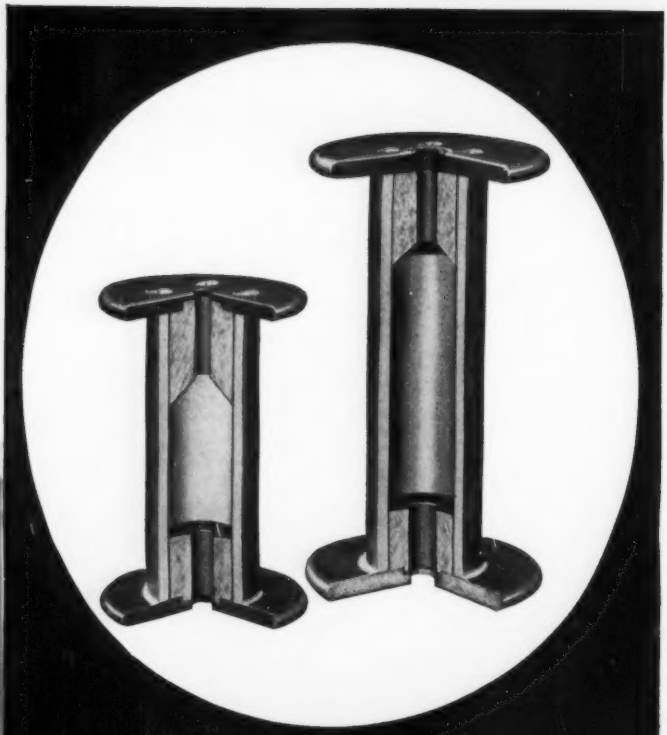

THESE MACK BAKELITE BOBBINS WITHSTAND NYLON'S MIGHTY GRIP

The cut-away photograph shows why and how these new Mack bobbins can withstand nylon's mighty grip yet provide a light weight bobbin of high impact strength. Bushings of molded bakelite are press fitted and cemented into bakelite barrels. Additional strength is gained by locking the assembly in position with the drive screws that hold the heads. Bakelite heads complete an all-bakelite construction that withstands steaming after steaming without distortion. They start concentric; stay concentric. For winder spinner use where steaming is not required, vulcanized fibre heads can be used at a considerable saving in cost.

These Mack bobbins are thoroughly proven; in more than 2 years of mill operation not one has failed in service. For full information on how you can utilize the extra strength and precision of these dynamically balanced concentric vibrationless bobbins, write, wire or phone the Allentown Bobbin Works, 417 North 14th Street, Allentown, Pa. Phone Allentown 5-1501.

ALLENTOWN BOBBIN WORKS, INC.

ALLENTOWN PENNSYLVANIA

during the year, a large percentage of which went into the purchase of cotton yarns.

10% of Burma's pre-war yarn needs and 7% of her fabric needs were in mid-1951 being met by the new $4,000,000 cotton mill at Thamaing, built and equipped by American manufacturers. Two Americans head the management while a Japanese engineer is in charge of the Japanese-made looms. The mill has 20,000 spindles and 200 looms. Yarns up to 24s are spun.

Canada—Cotton manufacturing was depressed during the past fall, despite a short-lived spurt in October. All but a few mills worked reduced hours, and there were some lay-offs. The November, 1951, index was 131.8 (1935-39 equals 100) as against 166.6 for November, 1950.

Production at the new Edmonton, Alta., plant of Celanese Corp. of America, being built by Canadian Chemical Ltd., a subsidiary, is expected to include 15,000,000 lb. of filament and staple annually. Cellulose-acetate output will be 25,000,000 lb., of which 10,000,000 lb. will be for export.

Canadian full-fashioned hosiery mills are reported trying to hold on to their domestic market in the face of U. S. shipments into the country. About 6,000 people are employed in 43 Canadian f.-f. mills.

Colombia—Compañia Textil Colombiana S. A. has been founded in Medellin. It is capitalized at $2,400,000, half of which will be paid this year. Partners are Tejidos Union S. A. of Colombia; and J. Thiriez Pere & Fils and Cortier-Bresson of Lille, France. Yarns and commercial threads are to be manufactured.

Although the textile industry has made great strides in recent years, the country will import both raw cotton and finished goods for years to come, Javier Obando of Colombia said recently in New York.

Denmark—What is said to be an all-cotton shrinkproof, creaseproof, washable, colorfast apparel fabric has been developed in Denmark. It was marketed in Copenhagen this past year, selling at 8.35 crowns per meter.

Dominican Republic—The two new mills in operation this year are La Algodonera C. por A., with 3,250 spindles and 55 looms, about to go into full production; and Bendek y Cia. C. por A., with 3,000 spindles and 44 looms. The former previously produced knitwear yarns and now is to weave cotton dress goods, both plain and fancy. The latter mill weaves cotton ticking, sheeting, denim, and twills, both in the gray and dyed.

Textilera Dominicana C. por A. now has 3,500 spindles and 120 looms on ticking, twills, denims, canvas, and khaki. It consumes 50 to 60 bales per month.

Textilera Dominicana cotton acreage yielded about 720 bales last season. Planting was discontinued this year until a government cotton-production plan goes into effect.

Egypt—Last fall a serious crisis threatened Egypt's textile industry. About 5,000

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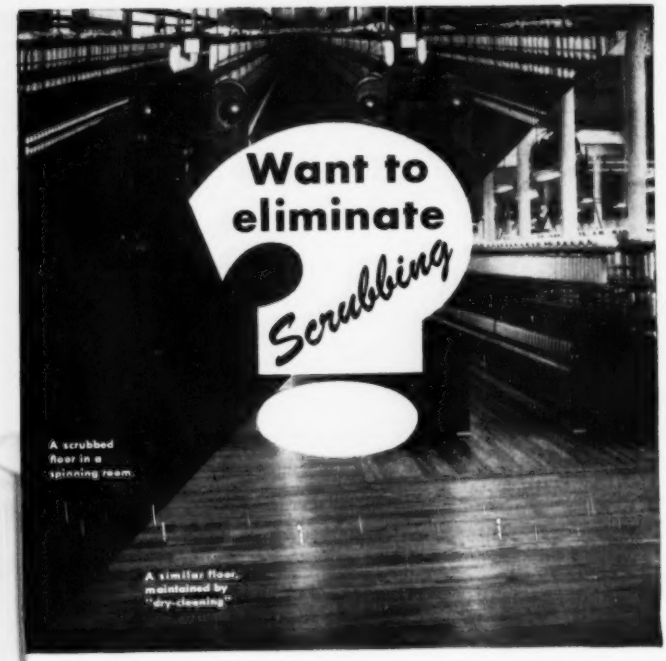

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workers were discharged from both spinning and weaving mills. Inventories had gotten too high. Spinning mills later recovered somewhat as the demand for yarn picked up as a result of lower Egyptian cotton prices. Commercial weaving was still slow at the year's end.

A light cotton crop is expected to lead to even higher prices of both raw material and gray and finished goods. New export subsidies so far have been refused by governmental finance authorities, who say that textile prices are 20% lower than in 1948 and that the critical situation continues because of waste and inefficiency and unjustifiably large salaries.

Finland—The Sateri rayon-manufacturing plant, located at Valkeoski in central Finland, is one of the largest in Northern Europe. Two Carrier Corp. centrifugal refrigeration machines handle process refrigeration and air conditioning.

France—The French textile industry as a whole has become "productivity conscious," thanks in part at least to several technical mission that visited the United States in 1951 under ECA sponsorship. Meetings of employers, technicians, foremen, and workers were afterwards held throughout the country to discuss increased-productivity techniques.

The problem of raw-material supplies is still vexatious. Widely fluctuating and rising prices upset normal trade demand and consumption, both domestically and exportwise. Strong government support is indicated for 1952 for the increase of dollar-earning textile exports.

Production in the industry toward the end of the year was 110% of the 1938 average. Between July and September, production increased by the following amounts in the following categories: cotton yarn, 32%; cotton fabrics, 51%; wool yarn, 35%; wool fabrics, 15%; filament rayon, 17%; rayon staples, 46% and silk and rayon fabrics and ribbons, 4%.

Germany—West German mills in 1952 will have a potential consumption of 1,000,000 bales of cotton, of which a minimum of 60% of the total is hoped for from the United States.

The modernization of West German mills is badly hindered by a lack of long-term capital. Cotton equipment especially needed includes blending feeders, single-process picking, controlled-draft frames, modern slashers, and automatic looms. In 1951 only 22% of the cotton looms in Germany were automatic. Modern hosiery machinery is badly needed.

West Germany, with 33% of the U. S. population, has 26% as many cotton spindles as the U. S., 35% as many cotton looms, and 63% as many cotton weaving mills; but it consumes only 12% as much cotton as the U. S. does.

Last fall a 25% price reduction for Perlon fiber was announced by the Dormagen plant of Bayer-Leverkusen.

Many **East German** textile mills are reported having to scrap their machines in a Soviet drive to emphasize heavy industries and armaments in the East German area.

Hungary—Textile-mill production in this

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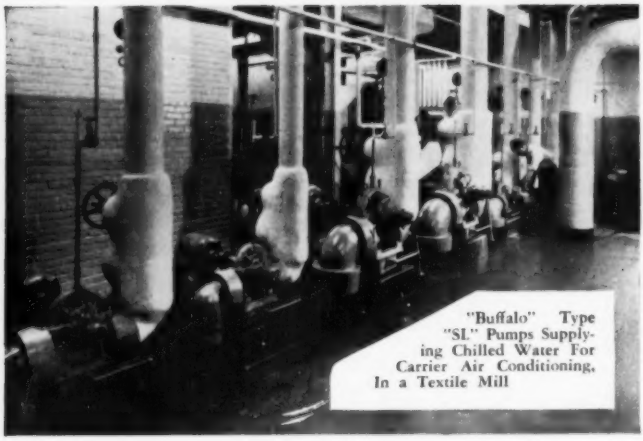

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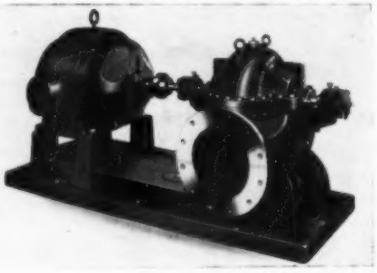

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country has been low for many months. Three reasons for the reduced output are given as (1) low quality of raw cotton necessarily imported from Russia, (2) running down of machinery because of Stakhanov "quantity drives" at the expense of planned machinery maintenance and long-run quality, and (3) impossible production quotas, poor pay, and bad working conditions for the individual worker.

India—The value of the over-all textile-industry output in India is calculated at approximately $1,000,000,000. Almost 62% of the country's capital investment is in textiles, and about 55% of the nation's industrial income is earned in the industry. Net productivity per worker is calculated at $300 per year and net average earnings at $250 per year per head.

An acetate-producing plant to employ 4,000 and costing $11,000,000 is being built at Hyderabad by Ateliers Pingris et Mollet-Fontaine of Lille, France. Output is planned at 5 tons of cellulose per day. Start of production is scheduled for the end of this year.

India now has a complete ring-spinning-frame factory, located 20 miles north of Bombay. A mechanized foundry with a rated capacity of 500 tons per month is included.

Jute-trade troubles between India, Pakistan, and the rest of the world continue.

Iran—Iran today imports much of her textile needs, but her factories and home industries turn out some 20,000,000 yd of cotton, wool, and silk cloth annually. The biggest section of the labor force—100,000 people—works at the making of the world-famed Persian rugs.

Iraq—This country has allocated in its budget 1,000,000 Iraqi dinars for the establishment of a 20,000-spindle and 400-loom textile mill with a complete electric-power unit. Output will supply Iraq with both yarn and gray sheeting, as well as heavier-weight fabrics.

Ireland—Berkshire Knitting Mills has purchased a controlling interest in the nylon-hosiery mill of Ulster Knitting Mills Ltd., Newtownards, North Ireland. Nylon is still in short supply, but plant re-equipment is being effected anyway.

In Londonderry, North Ireland, Dunlop Cotton Mills Ltd. of Rochdale, England, is establishing a mill for the production of rayon tire cord.

Israel—Israel's textile industry is, by local standards, an important branch of the country's economy. It is 100% in the hands of private enterprise. The industry is expanding.

Local mills are modern and are exporting some of their output to countries like Switzerland, the U. S., and the Scandinavian group. Local manufacturers and technicians are avowedly "learning" as fast as possible from the U. S.

A 4-yr. textile-manufacturing development plan has been set up. It calls for additional capital investment of $9,000,000 in mills. $11,000,000 had been invested already a year ago. Projected for construction are two 15,000-spindle cotton mills, a 2,500,000-yd.-per-annum weav-

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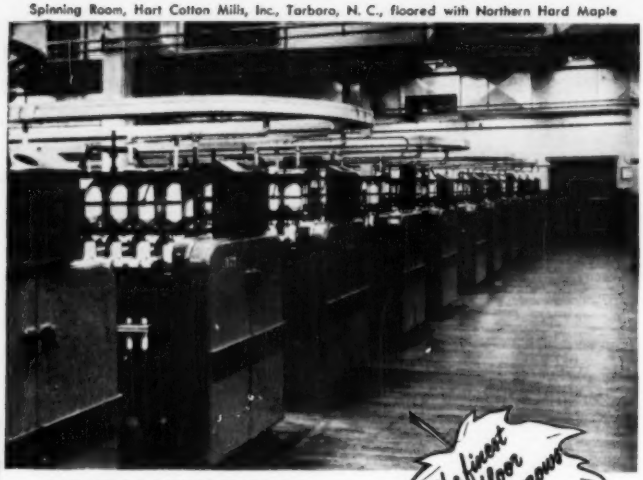

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ing mill, and a 5,000-spindle and 100-loom worsted mill. Future plans call for units for jute spinning and weaving, thread manufacturing, glove knitting, and carpet scouring.

Flax is now being grown, mainly in the Negev area. Planting is hoped to be increased to 25,000 acres within four years.

An "Investment Center" has been set up in Tel Aviv to attract mills to Israel. Mills allowed to be set up by foreigners in Israel have been given the right to take out of the country in the way of profits each year up to 10% of the capital investment.

Italy—North Italy is no longer the predominant area for industrial expansion and new construction, but rather the South of Italy, where, within the framework of a 10-year program for the economic development of the South, official assistance has facilitated putting into effect of industrialization plans.

The new "Società Rhodiatoca" company, owned jointly by the Montecatini and a French group, plans to open a branch factory in the South for the manufacture of nylon and Perlon. It will start with a potential output of 100 tons per year and will employ 500. The Italian output of nylon will thus rise from 299 tons per annum in 1949 and 585 tons in 1950 to 685 tons yearly in 1952.

"Cotonificio Siciliano" has been started in Palermo, Sicily, with capitalization of 1,000,000 lire that will be raised to a billion lire ($1,500,000) by the end of 1952. It will specialize in cotton manufacturing.

A modern woolen mill, to be financed by North Italian capitalists, has been formed in Salerno. Machinery and technical staffs will be provided by the North, while Southern promoters will provide buildings. A loan valued at several million dollars has been granted the new company by the Bank of Naples.

Several other new textile plants have also been set up recently around the country.

Jamaica—An extensive program of industrial development is being undertaken here in areas remote from tourist regions. The Ariguanabo Co. of Jamaica Ltd. cotton mill is already operating the processes of spinning, weaving, bleaching, dyeing, and finishing.

The plant and equipment are all new. Whitin Machine Works provided 12,000 spindles, Draper Corp. furnished 336 Model X-2 looms, and H. W. Butterworth & Sons manufactured the wet-processing equipment.

At 100% efficiency, 3 shifts, 300 days a year, the mill will produce 14,000,000 yd. Capitalization of $2,520,000 is fully paid up.

Japan—Japanese production of over-all textiles is reported so far to have reached only 50% of its prewar level in spite of U. S. military spending in Japan to date. Last fall Japanese textile mills were outbid by Hongkong traders on our ECA bid on cotton fabrics for Korean reconstruction. In the case of cotton-goods exports to the dollar area, the poor showing of Japa-

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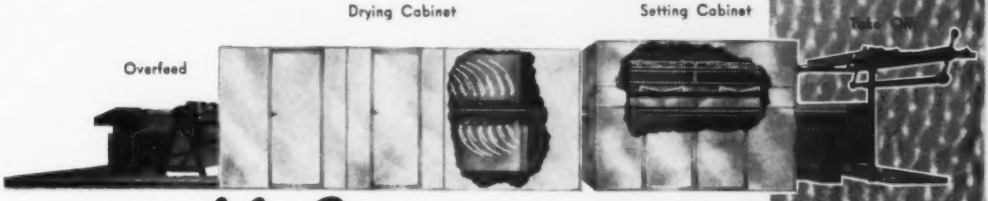

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nese mills in this line worries some mill men about the even flow of American raw cotton into the country in return.

In fiscal 1950, Japan imported 78% of its 1,628,000 bales of cotton from the United States. Only 3% of Japanese cotton goods exports were directed to the U. S. in return. The sterling area brought 51% of the balance, and "open-account" countries 38%. Japan in December received an Export-Import Bank loan of $40,000,000 to help buy about 180,000 bales of cotton from the 1951 crop.

Cotton spinning mills totaled 64 at the end of June, 1951, as against 35 in the previous year when the 4,000,000 spindle limit was rescinded by SCAP. Spindlage is now about 5,000,000 operable.

During the war Japan lost 25% of its worsted spindles and 50% of its woolen cards. Wool manufacturing is now back up to 60% of its prewar capacity of 1,600,000 worsted spindles, 700 sets of woolen cards, and 30,000 looms. With the Chinese wool-textile market gone, Japan is looking for new markets in this line.

The production of rayon filament for the first three-quarters of 1951 was 100,952,000 lb., an increase of 30,000,000 lb. over the same period in 1950. Rayon-staple production was 173,251,000 lb. for the same period in 1951, as against over 100,000,000 lb. during the previous year.

A 20-ton-per-day acetate plant is being considered as a joint operation of American Viscose Corp. and Dai-Nippon Celluloid Co. in Aboshi. About 37% of the 4,000,000,000 yen capitalization is to be contributed by AVC.

Mexico—The Textile Manufacturers Assn. of Mexico last autumn suggested that member mills reduce production or face serious economic disturbances. Mills were over-inventoried and had few good outlets because of increased buyer resistance. Reduced prices had not helped turnover up to that time.

All restrictions on the export of cotton were lifted on the 1950-1951 crop after an expected shortage for domestic mills failed to materialize during the year.

The Celanese viscose staple plant at Zacapu will double production in 1952.

The Netherlands—Dutch spinning and weaving firms employ about 46,000 workers. A group of 21 industry representatives visited the U. S. for six weeks in November under ECA auspices to see how their productivity could be increased without heavier workloads or unemployment.

Norway—This country's largest rayon-producing plant, located at Notodden, has been expanded. The annual production rate is now 1,700,000 lb. and takes care of 75% of Norway's rayon consumption.

Pakistan—Pakistan aims to be self-sufficient in cotton cloth by 1954, according to a 3½-yr. survey of the country's cotton-textile manufacturing facilities that was completed last year. Production has increased 25% since 1948. Capital invested today is about $28,000,000 as against about $15,000,000 in 1947. But Pakistan still spends $140,000,000 per year on imported cloth and yarn (mainly from India).

The 1955 spindleage goal is 1,350,000, four times the present number. A large

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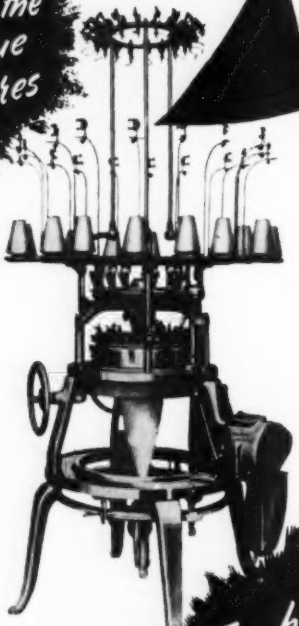

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percent of them will be Japanese-made. Plans include the building of 35 more cotton mills and encouragement of the 500,000 handlooms operating in the country.

The main problem has been a yarn shortage. About 74,000,000 lb. of yarn per annum was the rate of import a year ago. The country's total annual cloth requirement (set at 18 yd. per capita) is 1,350,000,000 yd.

Pakistan is trying to raise its annual raw-cotton production from 1,500,000 to 2,500,000 bales. Such an increase would allow for substantial export to Japan as well as take care of expanding domestic needs.

The Philippines—An expanded program of financial and technical assistance to the Philippines was granted by ECA in the amount of $15,000,000 for fiscal 1951.

A project for producing kenaf, the jute substitute, is under way in view of uncertain Indian burlap and other jute-product markets. About 3,000 acres were planted last summer. Philippine Fiber Processing Co. is expanding its jute-weaving facilities from 200 to 500 looms.

Cotton weaving in Northern Luzon declined during 1951. Only 7,400 looms out of pre-war total of 21,800 were in operation last summer. Cotton acreage in the area is reported only 77% of the pre-war total.

Portugal—Cotton spinning mills are in many cases newly equipped and modern. Raw cotton is in short supply and is confined for the most part to imports from the Portuguese colonies of Angola and Mozambique. Some Egyptian staple is used for sewing thread and finer yarns.

Re-equipment of older mills and the building of some new ones has gone on since World War II. The new Ferreira mill at Mindelo near Oporto is a single-storied structure, built around a central courtyard with a pool, and has over 10,000 spindles, 216 looms, and facilities for expansion on either side.

A large majority of Portuguese textile equipment is imported from England.

South Africa—Wood pulp is to be processed for rayon use in South Africa jointly by Courtaulds Ltd., Snia Viscosa, and the South African Industrial Development Corp. Canadian pulp has not been available since 1948. Scandinavian pulp rose in price from $140 per ton in 1948 to $345 per ton last fall.

A new £20,000 textile printing plant at Kuil's River near Capetown has gotten into production. It covers 12,000 sq. ft. First output of the fast-color printing method (applicable to any type of cloth) that is based on a German patent, is about 1,700 yd. per day.

The first modern full-fashioned knitting mill in Africa, Berkshire Knitting (South Africa) Ltd. was officially opened in East London last May. About 200 employees operate and service the 14 26-section, 51-gauge machines three shifts, five days a week. Maximum production is 2,000 doz. pr. a week. All yarn used is British-made, in 15 and 30 deniers.

Spain—Privately owned SNIACE (Socie-

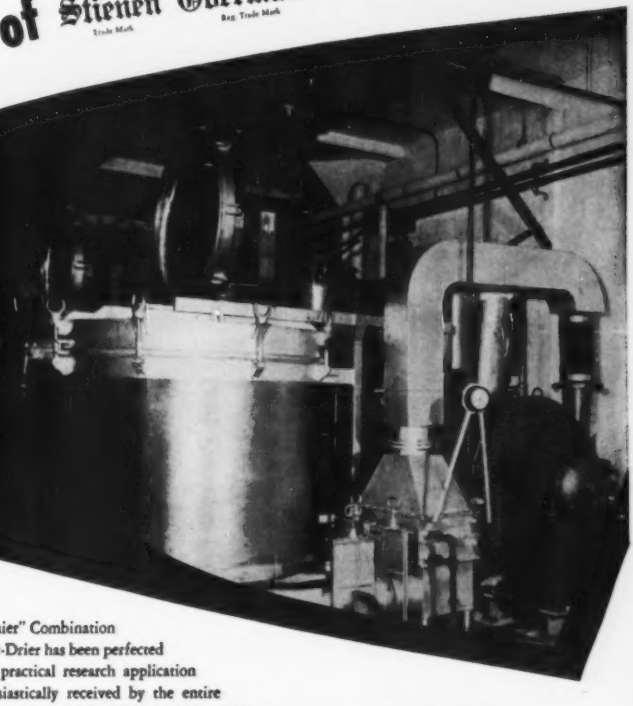
For more information, write direct or use Reader Service post card.

MORE PROOF of Stienen Obermaier leadership

Trade Mark Reg. Trade Mark

COMBINATION EXTRACTOR-DRIER*

Substantially reduces labor costs and cuts drying time in more than half.



The "Stienen-Obermaier" Combination High-Speed Extractor-Drier has been perfected after many years of practical research application and has been enthusiastically received by the entire trade. This new system of extracting and drying has cut the total drying time more than half over other systems and has proven a superior method to any other available for package drying. This Combination High-Speed Extractor-Drier can be utilized by even the smallest package dyer to great advantage.

The quick drying time means faster turnover of yarn in the dyehouse, eliminating bottlenecks, and cutting production time in half. This means half the required floor space and half the material carriers.

In actual operation, the material carrier is removed from the dyeing machine and placed in the extractor-drier. For average production, the entire operation is handled in this one machine requiring 1½ to 2 hours. For larger production, the same machine is used for extracting. Additional Port Driers are used to maintain the same high-speed drying results.

Submit your sample package to our laboratory and you shall receive exact data on your type of yarn.

The only complete laboratory unit made for sample dyeing, extracting and drying.

- **entirely electrically operated**
- **no steam required**

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*PAT. PEND.

not on these machines!

...they're all BIJUR equipped

Each maker of these machines had your best interest in mind when he built-in a Bijur lubricating system. Human carelessness and forgetfulness are eliminated by machines having built-in Bijur lubricating systems. These machines will never be shut down because they lack continous, proper lubrication. Make certain the machine you buy is furnished with a Bijur lubricating system.

Write for Bulletin 6A

BIJUR

LUBRICATING CORPORATION

Rochelle Park • New Jersey

dad Nacional Industrias Aplicaciones Celulosa Española S. A.) is building at Torrelavega a machine, patented by Kuljian Corp., Philadelphia, Pa., to make a competitive rayon from eucalyptus viscose, which is in abundant supply in Spain.

A chemical plant for the manufacture of dimethylaniline, an intermediate used in dyes, is also being built at Torrelavega by Koppers Co., Inc., Pittsburgh, Pa., for Real Compañia Asturiana de Minas.

Increased rayon-fiber output is being sought by the building of increased production facilities by two manufacturers, Empresa Sniace and Empresa Fefasa. Over-all Spanish rayon output in 1951 is estimated at 30,000 tons.

Sweden—The Swedish textile trade, including clothing manufacture, employs about 15% of the nation's workers, exceeded only by the steel and engineering industries.

From 75 to 80% of cotton and wool yarns and fabrics are supplied by domestic mills. In hosiery and knit goods, Sweden is 90% self-sufficient; in ready-made clothing, 95%.

Most of the raw materials as well as the machinery going into Swedish mills is imported from abroad.

Switzerland – Textile manufacturing in Switzerland was generally extremely good up to the middle of 1951. The last half of the year saw some weakness in demand on some constructions and in some fibers, but the dip was not severe. Specialty items are still high in demand.

For a year now, Société de la Viscose has been manufacturing nylon under a Du Pont license at its plant at Emmenbruecke near Luzern. Production is still going only into domestic Swiss channels.

Grilon, said to be an improvement productionwise on the Perlon process, also went into commercial production during 1951. Its future is seen as lying in blends with wool, cotton, and rayon fabrics to improve abrasion resistance. Production has not yet reached the export stage.

Syria—Syria's raw-cotton exports may reach 50,000 tons in 1951-52. Acreage given over to cotton growing in the Euphrates region is five times that of 1950. However, much of the increased planting was lost before picking time, so that last year's crop was only 20,000 tons, or 6,500 tons more than in 1950.

Syrian cotton exports the first half of calendar '51 were 10,801 tons. France received 2,990 tons; 2,696 tons went to Lebanon (free zone), 1,731 tons to Britain, and 1,028 tons to Italy.

Turkey—This nation of 20,000,000 people has an annual per-capita cotton-cloth production of 13 yd. that is expected to rise comfortably in the next few years. Fourteen representatives of the Sumer Bank, a management agency under the Turkish government's Ministry of Exploitations, visited the U. S. for 6 months recently to study the principles and techniques of modern industrial management.

Over-all industrial production has risen to over 170% of the prewar level. The

FIX IT... BEFORE IT BREAKS!

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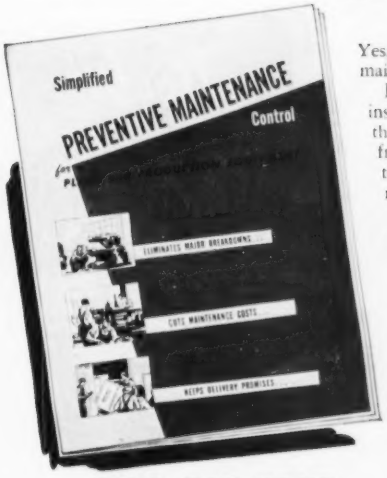
Scheduled Preventive Maintenance Controlled by KARDEX VISIBLE RECORDS!



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Yes, with a Kardex Visible system, you review and *control* your preventive maintenance schedules... *at a glance!* Here's how the system works—

Experience and performance are combined to set up a pre-arranged, tested, inspection schedule. Kardex colored signals indicate . . . *automatically* . . . those items due for inspection. A "Floating Inspector's" record is withdrawn from the Kardex pocket, filled out with instructions specific to the checkup to be performed, and routed to your maintenance men as a work order and report sheet.

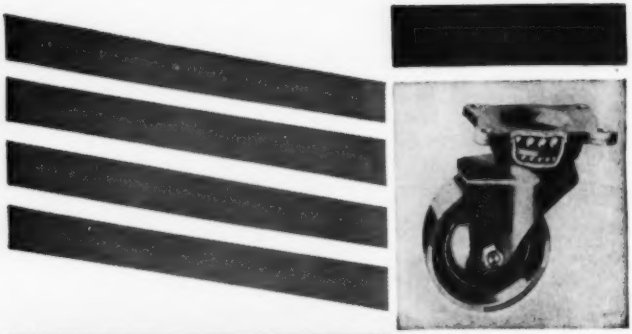
When the maintenance job is complete, the maintenance man checks off what he did and the card is returned to its place, *automatically* signaling job completion. Then, the Kardex signals are advanced to the next date specified. Details are posted on the maintenance card from the job card, providing a continuing, *permanent* record of maintenance activity.

The quick result: needless, costly "down-time" is eliminated; operating efficiency goes up; manufacturing costs go down – all accomplished with *less* clerical help and a minimum of time-wasting paper work, thanks to the "floating" maintenance order!

You'll find valuable information in *SIMPLIFIED PREVENTIVE MAINTENANCE CONTROL*, just published by Remington Rand to help you. Too, you'll learn of the profit-building advantages in controlling plant inventories with Kardex *simplified* property records.

To establish, once and for all, complete control over your maintenance activity and to hold inventories at a healthy, low level, write for your copy *today!* Ask for KD-449, *SIMPLIFIED PREVENTIVE MAINTENANCE CONTROL*. Address: *Management Controls Reference Library*, Room 1668, 315 Fourth Avenue, New York 10.

Remington Rand INC. **THE FIRST NAME IN BUSINESS SYSTEMS**



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CASTERS & WHEELS

For light or heavy duty service Darnell Casters and Wheels are made for a long life of trouble-free usage, to protect floors and increase employee efficiency.

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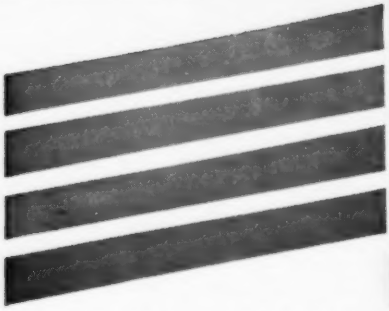
Always SWIVEL and ROLL



country is now humming with projects designed to carry her economy to new heights of productivity.

About 6,000 tractors now in the country as Marshall Plan aid are in cotton-growing areas. The 1950 crop rose to 700,000 bales in 1950. By 1954 Turkey will have enough stock of two Acala-type cotton seeds to plant its entire crop. They outyield native types by 20 to 25%.

USSR—The Soviet Union is expanding its acreage given over to cotton growing and hopes at least to double raw-cotton production by 1960. The figure sought is given as 8,000,000 bales. Over-all textile-mill production figures are still believed below those of 1939.

In 1950, cotton-textile production was about 4,000,000,000 meters, approximately the same as in 1940. The 1950 goal had been 4,786,000,000 meters.

The goal of 580,000,000 pairs of stockings in 1950 was not met. The actual production figure of 432,000,000 pairs in 1950 was under the 1940 total by 48,000,000 pairs, or approximately 2¼ pr. per person.

Venezuela—Celanese Venezolona, a new rayon-producing company, was established in Caracas in 1951 by Celanese Corp. of America and Venezuelan textile interests. Construction of the new $6,000,000 plant, first of its kind in the country, is under way. Materials and equipment are coming from the U. S.

Venezuelan chemists and engineers are being trained in the U. S. and will occupy key position in the Venezuelan enterprise after their training is completed. Production-to-be is said to be rated at 5,000,000 lb. annually of viscose yarn and staple.

Useful Accessories For Textile Mills

▶ To request further information on any item, please use the card in the Reader-Service dept.; refer to the number at the end of the item concerned.

Concrete Floor Patches

A quick-repair patch for broken concrete floors has been developed by Flexrock Co., Filbert & Cuthbert, W. of 36th St., Philadelphia 4, Pa. The manufacturer reports that an Instant-Use patch takes traffic soon after it is put down. It is no longer necessary to close off a floor area while waiting for newly installed patches to set. The material is simply shoveled into the hole or rut and tamped; and the job is finished. The makers recommend the patching material for repairing

The HERR CONICAL RING

provides ideal conditions for the spinning or twisting of any yarn

To prevent yarn breakage, and obtain smoother, cleaner yarn with heavier, more uniform doffs you will need Herr Conical Rings. Tension of the yarn is equalized by the centrifugal force of the traveler which is outward and downward.

The space between the bottom of the ring and the bottom of the traveler is the "factor of safety" that permits the traveler to compensate for varying tensions of the yarn.

The HERR CONICAL RING provides the right angles for the traveler. The conical surface directs the centrifugal force of the traveler downward. The traveler rides on the top and conical surface of the ring.

Wear of the traveler is held to a minimum by a specially formulated oil carried in capillaries to the top surface and the conical surface of the ring.

The traveler distributes and rides on the microscopic oil film. Maximum spindle speeds are achieved. There is no rewicking of the Herr Conical Ring.

Ask for help on your problem.

Gentlemen:
Please send literature on Herr Conical Rings and Herr Flyers.
Name .....
Position .....
Company address .....
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HERR MANUFACTURING CO., INC.

309 FRANKLIN STREET, BUFFALO 2, NEW YORK

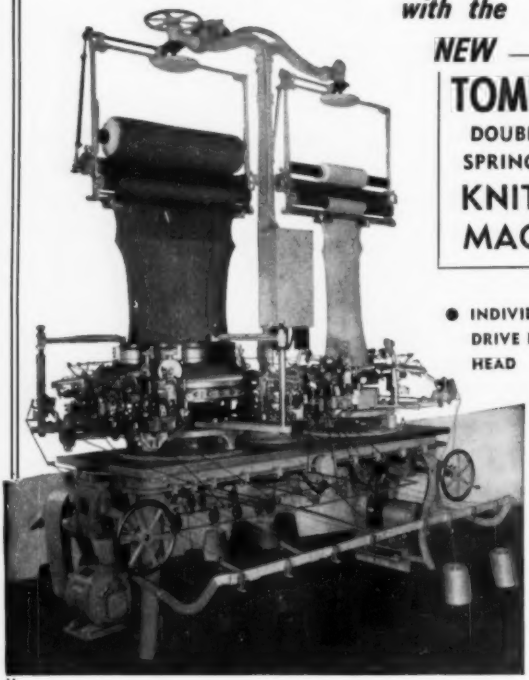
FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON AND BLENDED YARNS OF ALL TYPES

SAVE AT LEAST 50%

in needle replacement cost!

with the NEW

TOMPKINS DOUBLE HEAD SPRING NEEDLE KNITTING MACHINE



- INDIVIDUAL MOTOR DRIVE FOR EACH HEAD
- Stop motion controls at three points of yarn delivery
- New furnishing wheels for uniform yarn delivery
- 8" to 35" cylinders
- 5 to 50 gages

The world renowned "Old Faithful" double head machine is now fully modernized for greater versatility—and economy! You save on labor, waste and needles with THE NEW TOMPKINS DOUBLE HEAD MACHINE!

New positive stop motion with furnishing wheels control each end of yarn and prevent imperfect feeding of yarn to needles. Furnishing wheels are geared to deliver the exact amount of yarn required for the particular stitch being made. Tension always remains constant and steady for delivery from furnishing wheels, providing a much welcomed uniformity of cloth and a reduction of at least 50% in needle replacement expense!

Optional equipment available include a three-color (three thread) striper as well as a foolproof pattern attachment (for putting in or taking out a pattern).

WRITE FOR COMPLETE DATA AND CLOTH SAMPLES

TOMPKINS BROS. CO.

623 ONEIDA STREET SYRACUSE 4, N. Y.

ESTABLISHED 1846 . . . over a century of continuous service to the knitting industry throughout the world

Useful Accessories (Continued)

breaks in concrete caused in relocating machinery. (U-1)

Concrete Glazing Sealer

A new glazing sealer for concrete has been developed by Rex Home Supply Co., 142 So. Highland Ave., Ossining, N. Y. Concrete Glaze is a fast-drying clear varnish recommended for concrete floors and other concrete surfaces that are subjected to the wearing action of heavy traffic. The sealer is designed to seal the pores of concrete with a tough and lasting resinous coating that presents a clean, germ-resistant surface. The coating may be brushed or sprayed on both interior and exterior surfaces, and it dries quickly. (U-2)

Drive Tractor

A "Stand-up" drive tractor designed to cut down material-handling costs has been announced by Market Forge Co., Everett 49, Mass. The tractor is for use where items are stored on either skids or pallets. The low platform, seven inches off the floor, is designed to eliminate unnecessary exertion in loading or unloading. Operation is made easier by the use of the same pedal for both forward and reverse operation. Capacity is up to 10,000 lb. of load at approximately 3 m.p.h. A 340 a.h. battery supplies the power. All wheels are fitted with two sealed-type ball bearings. (U-3)

Fork-Truck Drum Clamp

A new, improved drum clamp for fork trucks has been developed by Baker Industrial Truck Div., Baker-Raulang Co., 1250 W. 80th St., Cleveland 2, Ohio. The new Baker drum clamp features retaining springs on the clamp's rubber-faced grab plates. These springs are designed to keep leading edges of the plates out of the way while drums are being positioned in the clamp. An adjustment feature of the four-purpose carriage permits truck operators to use the clamp attachment to handle drums of any standard size. (U-4)

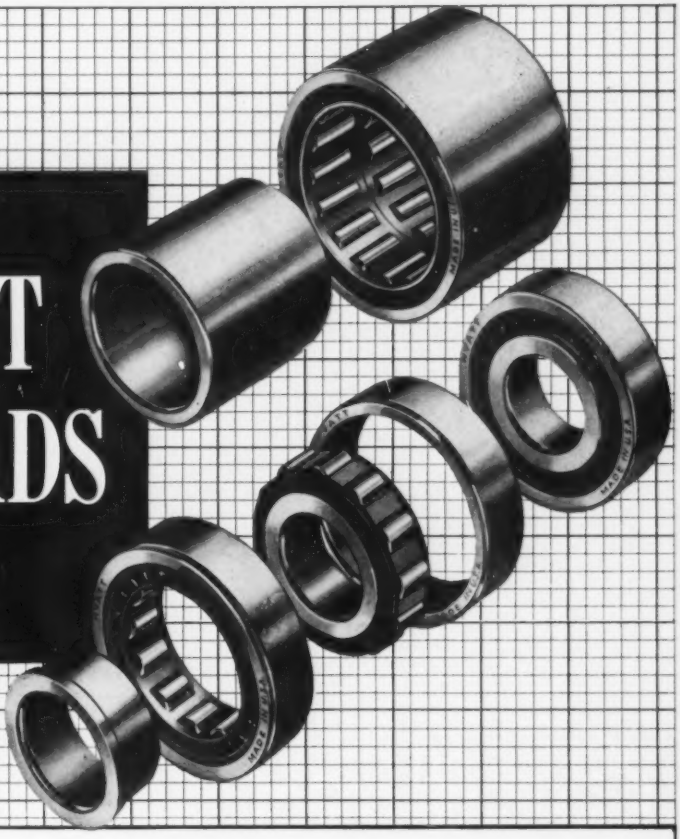
Industrial Floor Cleaner

An industrial floor cleaner designed to perform three operations in one has been announced by West Disinfecting Co., Long Island City, N. Y. "Pine Lustreclean" is a liquid formulation that is said by the manufacturer to clean, deodorize, and lightly wax all in one operation, leaving a fragrant pine odor. The cleaner may be used on wood, composition tile, and other floor materials as well as walls, woodwork, and similar surfaces. It is said to be suited to any type of building where floors are subject to very heavy traffic. (U-5)

New Heat Machine

A new 140,000-Btu. heat machine for indoor or outdoor use has been announced

HYATT HY-LOADS



Your best bearing bets—

THE Hyatt Hy-Load line of cylindrical roller bearings is designed to take heavy radial loads in the most direct manner. They also permit light or intermittent thrust loads.

These roller bearings are available with separable inner races, separable outer races or in non-separable types, depending upon design and assembly requirements. For additional capacity, two rows of rollers can be provided in the separable inner-race type.

Hyatt Hy-Load Roller Bearings are manufactured in ten basic types—two diameter series—wide and narrow widths, and they conform to standard boundary dimensions.

* * *

Like other popular series of Hyatt Roller Bearings, they are engineered right, built right, and they stay right, permitting equipment manufacturers greater design flexibility and general product improvement, and guaranteeing for ultimate users the longer machine life and the improved performance that inevitably results from correct bearing application at all critical wear points. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

HYATT ROLLER BEARINGS

WHERE QUALITY COUNTS . . .

DANDUX

canvas DOFF BASKETS, AISLE BASKETS, and TRUCKS

Quality Canvas • Quality Construction

Suitable for Doffing Operations in
All Types of Mills

C. R. DANIELS, INC.

75 West St., New York 6, N. Y.
25 Huntington Ave., Boston 16, Mass.
121 E. 3rd St., Charlotte 2, N. C.

Sterling Ring Travelers

CONTROL

The small Ring Traveler controls the speed at which your spindles can run and produce satisfactory results.

So much depends on them that they should be given very careful consideration.

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T. B. Farmer	Box 150	Langley, S. C.
J. S. Furtado	Box 803	Fall River, Mass.

STERLING RING TRAVELER CO.
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Useful Accessories (Continued)

by Fageol Heat Machine Co., 5725 Mt. Elliott Ave., Detroit 11, Mich. The Fageol Model PW-140 is reputed to employ a new principle of forced-air circulation and to heat men at work instead of empty spaces. The machine burns regular furnace-type fuel oil of No. 3 or lighter grades, also kerosene. Model PW-140 is self-contained, requires no flue or chimney, has an attached 6-gal. fuel tank, and is equipped with wheels for easy moving about. (U-6)

New Packing Glands

A new series of stainless-steel packing glands has been announced by Conax Corp., 4515 Main St., Buffalo 21, N. Y. These packing glands are designed for general use and ease of installation in process-control, pilot-plant, or laboratory installations. The glands are made to accommodate tubes from $\frac{1}{8}$ to $\frac{1}{2}$ in. outside diameter. The inside diameter of all the packing glands are bored to customer specifications. Any plastic or other satisfactory packing material may be used with excellent results. (U-7)

Personnel Identification

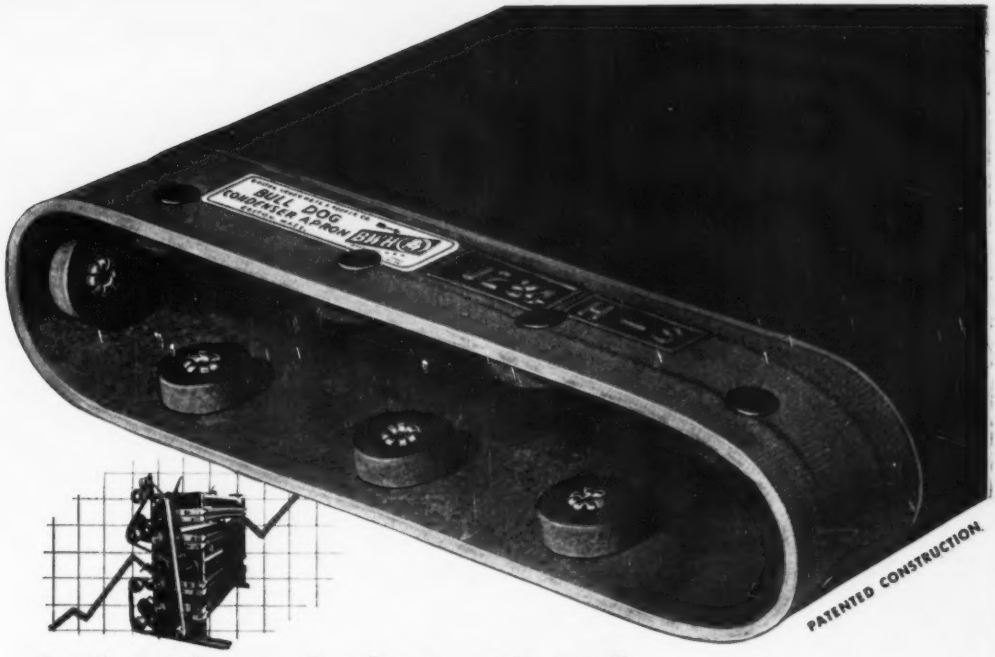
A new method of controlled identification has been developed by Authorite Co., Dept. 47, 1 Baker St., Providence 5, R. I. The purpose of the new method is to identify authorized personnel quickly without the usual signature, fingerprint, or photo examination, in addition to producing an indelible record of each transaction. An Authorite station located at time clocks is said to prevent any employee punching the cards of other employees to hide unauthorized absence. A decoding machine for use with the Authorite identification key prevents any misuse for identification purposes. (U-8)

Rust-Preventive Paint

A new rust-preventive paint has been announced by United Laboratories, Inc., 16801 Euclid Ave., Cleveland 12, Ohio. Certified Rust Inhibitor No. 425 is said to dry in 10 min. under normal drying conditions, and one coat is claimed to provide excellent hiding of old metal surfaces and to greatly reduce painting costs. The new formula FD-425 will withstand temperatures from below zero to 250° F. and is reported to be resistant to salt air and fumes. Application may be made over damp surfaces, interior or exterior, and on new or rusted metal surfaces of all kinds. (U-9)

Small Fire Extinguisher

A one-qt. fire extinguisher designed to remain free from corrosion has been announced by The Detroit Corp., 2272 E. Jefferson Ave., Detroit 7, Mich. The problem of corrosion is said to be solved by the use of a corrosion arrester feature exclusively in General Quick Aid Fire Guards. The corrosion arrester is an integral part of the pump and purifies the liquid. Approved by the Under-



Card Condenser Production UP 25%

Jack-Spool Capacity UP 40-50%

...with BULL DOG RUB APRONS

YOU can start now to profit by these 13 EXCLUSIVE BULL DOG ADVANTAGES

Based on actual production records of numerous mills that have equipped various types of condensers with Bull Dog Rub Aprons . . . claims you can depend on because they have been decisively "proved-on-the-job."

1. Increase card condenser production up to 25% or more.
2. Increase jack-spool capacity 40 to 50% by weight. This reduces handling charges and lets you make longer runs on spinning equipment.
3. Produce a firmer, denser roving that runs better on spinning equipment.
4. Reduce end breakage.
5. Stay clean longer, resist stains, clean easily.
6. Resist oil.
7. Resist surface glazing and hardening (oxidation).
8. Retain high surface coefficient of friction without surface treatment.
9. Thoroughly proved in actual production service.
10. Patented reinforced end construction.
11. Buttons securely anchored with enlarged rivet heads.
12. Reduce card and condenser maintenance costs.
13. Longer machine life, because machine can be run up to 30% slower where only ordinary rubbing is required.

Let these PLUS features be your buying guide . . . contact your local distributor or write direct — TODAY

Another Quality Product of

BOSTON WOVEN HOSE & RUBBER COMPANY

BWH — DEPENDABLE RUGGEDNESS

Distributors in all Principal Cities

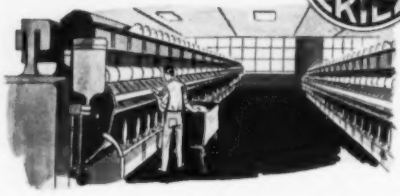
PLANT: CAMBRIDGE, MASS. • P. O. BOX 1071, BOSTON 3, MASS., U. S. A.

KEEP PRODUCTION AT ITS PEAK

BENDIX FRIEZ

Check Relative Humidity

with the



Bendix-Friez Hygrodial

● Progressive textile plants everywhere are becoming more conscious of the fact that trouble-free and continuous production depends on correct humidity. Be sure of proper conditions in your plant—keep the quality and quantity of the product high. The Hygrodial, a compact humidity and temperature indicator, is hair-operated and calibrated to professional standards of accuracy by the maker of the world's finest weather instruments. Handsome, modern case—4" high, 6" wide, 2½" deep. The Hygrodial is so inexpensive you can afford to buy several to spot around your plant.

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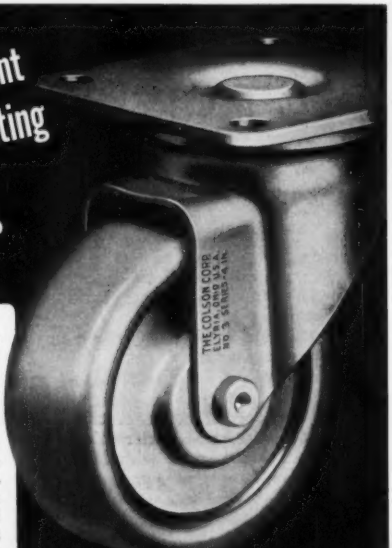
Speed Up
Your Old Equipment
with New Load-Floating
Colson Casters



Model 3-427-16 with thread guards, designed especially for the Textile Industry.

Rolling equipment that doesn't roll easily reduces efficiency and profits in your mill. There are 1458 standard Colson casters—many designed especially for Textile mills. They roll easily over all floors, swivel freely, are rust-resistant. Many models have thread guards. Colson also manufactures a wide range of trucks for the Textile Industry—hand trucks, platform trucks, box trucks, drum and barrel trucks and special devices. Write us or consult your phone book for the local Colson office.

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THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS • • LIFT JACK SYSTEMS • • INDUSTRIAL TRUCKS

Useful Accessories (Continued)

writers' Laboratories, the extinguisher is claimed to be ideal for fighting gasoline, oil, and electrical fires. (U-10)

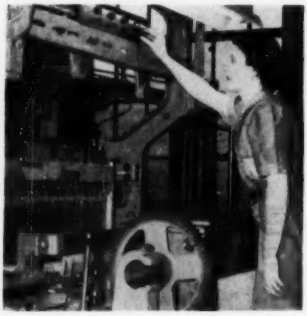
Stainless-Steel Coating

The development of a heavy-duty, serviceable, and decorative metallic coating has been announced by Steelcote Mfg. Co., St. Louis, Mo. The stainless-steel coating is made with finely flaked stainless-steel particles carried in an improved plastic-type vehicle. The combination of these two basic ingredients is said to produce a durable stainless-steel coating that resists corrosive elements with which it comes in contact. The coating is furnished in either brush or spray type and is prepared ready mixed for immediate use after thorough stirring. (U-11)

Textile Equipment News

(Continued from page 186)

Carpet-Loom Stop Motion Has Indicator Panel



INDICATOR PANEL lights indicate the cause of a loom stoppage. The light cannot be extinguished unless the repair has been effected.

A stop motion for stopping carpet looms for various reasons and an indicator panel to be mounted at the front of the loom that shows the cause of the stoppage have been developed by Wilson & Longbottom Ltd., Barnsley, England. The stop motion can be applied to the pile yarn, bottom chain warp, top and bottom filling, and the knife band. The action of the indicator panel is briefly as follows:

As soon as a fault occurs, a relay is tripped in the indicator panel that illuminates a warning indicating bulb. This same relay also completes a circuit to the main control panel of the loom. This circuit is, however, broken in a second position; the second break is controlled by a make-and-break cam

CLEAN...SANITARY

thanks to Cellophane!

Sylvania Cellophane MS-1 in the 450 gauge is the overwrap for this pillow case package . . . prevents soiling . . . stands up under handling.

5 important properties that mean successful textile packaging:

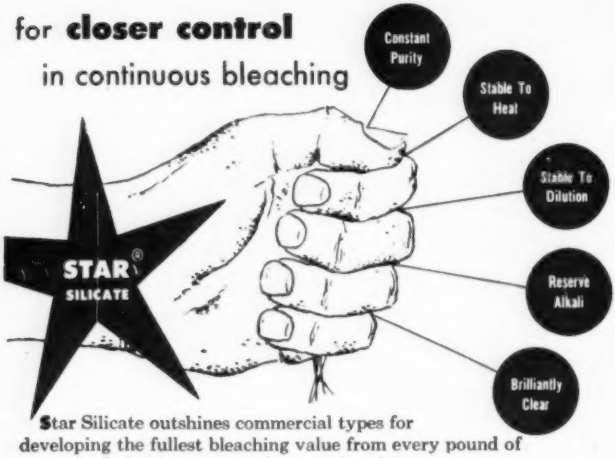
★ **Dust protection** ★ **Transparency**
★ **Durability** ★ **Low cost**
★ **Easy application**

SYLVANIA® CELLOPHANE

Sylvania is always ready to help you make the most of your cellophane supply. Discuss this problem with your Sylvania representative or write us concerning your application. Address: Market Development, Dept. TW-2

SYLVANIA DIVISION AMERICAN VISCOSE CORPORATION
Manufacturers of cellophane and other cellulose products since 1929
General Sales Office: 1617 Pennsylvania Blvd., Philadelphia 3, Pa.

for **closer control**
in continuous bleaching



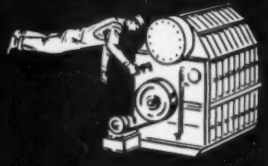
Star Silicate outshines commercial types for developing the fullest bleaching value from every pound of peroxide. It is the governor that evenly releases Oxygen from the peroxide to keep pace with high-speed production.

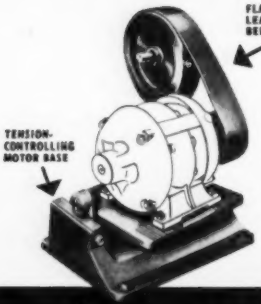
Star's purity insures stability to heat and dilution. It is especially designed to meet the exacting demands of controlled bleaching. Try Star Silicate in your bleaching system for greater uniformity—for greater economy.

Philadelphia Quartz Co., 1139 Public Ledger Bldg. Philadelphia 6, Pa.

PQ SILICATES OF SODA

You'll Seldom See
Your Maintenance Man
Hovering Over A
UNI-PULL DRIVE





A passing glance is usually all the attention a Uni-Pull drive needs from a maintenance man.

HERE'S WHY...The motor base automatically maintains belt tension...assures uniform pull around the pulleys...eliminates slide-rail tension-guesswork.

The flat leather belt pulls as a unit. No separate and uneven tensions. No danger of the misalignment wear you can get with multiple, groove-trapped belts.

If you're interested in years of service with minutes of maintenance, ask your leather belting supplier about Uni-Pull.

American LEATHER BELTING *Association*
Headquarters for Authentic Power Transmission Data
41 PARK ROW, NEW YORK 38, NEW YORK
AL 52

fixed to a shaft running at the crankshaft speed of the loom. Thus, by setting this cam in any position in relation to the crankshaft, the loom can be stopped in a predetermined position whenever a fault occurs.

To eliminate time wasted in finding why a loom has stopped, each stop motion is connected to an indicator panel. A reset button can be pressed on the indicator panel to extinguish the light that indicated the cause of the stop after the cause has been repaired. If the cause has not been repaired, the light will not go out. It will also not go out if two faults have occurred simultaneously, on the same stop motion.

Maturity of Cotton

(*Continued from page 171*)

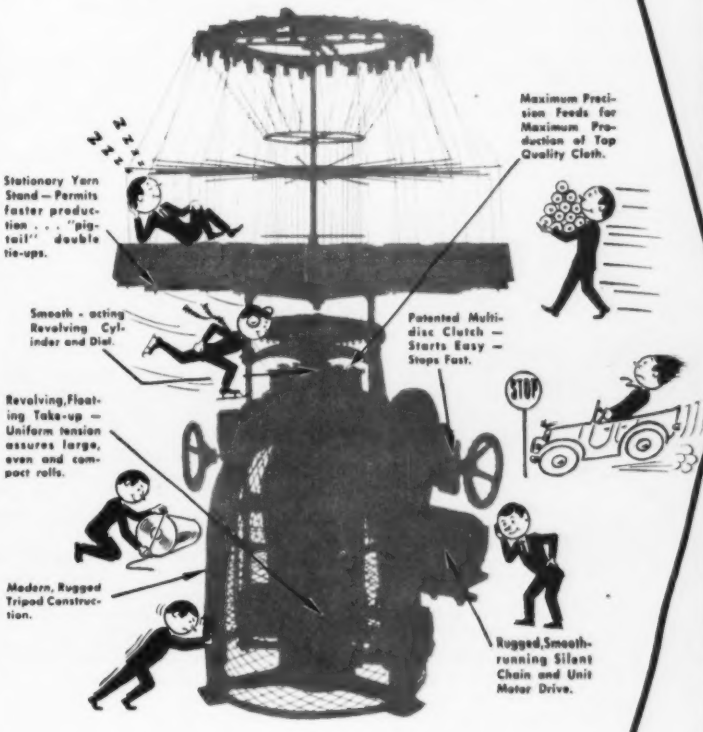
ing Administration) show mathematically that fiber fineness is as important in determining card-web neps as is maturity. In an effort to determine whether the nep-count differences experienced in the above Wamsutta experiment could have been due to fineness differences, Mr. Goldthwait ran Micronaire fineness tests on these same 24 samples. The results proved some recent findings of S. Jack Davis, of the Gallaway Mills Research Div., that within the same lot of cotton there is a somewhat rough correlation between maturity and fineness as determined by the Micronaire. The trend, as proven here, is coarse to fine with decreasing maturity.

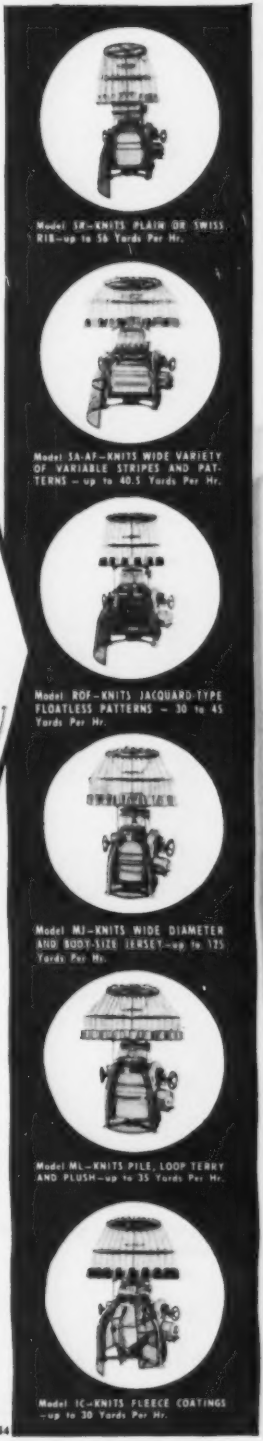
However, the difference in average fineness between these two most mature bales and two most immature was only 4.6 vs. 4.1 micrograms per inch, respectively. According to the regression formula given in Webb and Richardson's study, when other properties are constant, a fineness difference of this amount should make a difference of about 1½ neps per 100 sq. in. of card web. Also, a difference of 10% in maturity should make a difference of about 3 neps— based on the 828 lots of American upland cotton studied by them. Thus, a total of about five neps due to these two fiber-property differences could amount to a 50% nep-count increase over the Wamsutta average of 10 neps for the mature bales. In other words, the findings of this experiment are in line with Webb and Richardson's findings.

In the summary of Webb and Richardson's report it is mentioned, "The degree of neppiness for intermediate cottons, say with 10 to 20% of such thin-walled (immature) fibers, generally is uncertain and, seemingly,

MEET SUPREME'S WHOLE FAMILY OF PROFIT-KNITTERS

. . . and the mill-proven features they all inherit—


Maximum Precision Feeds for Maximum Production of Top Quality Cloth.
Stationary Yarn Stand — Permits faster production . . . "pig-tail" double tie-ups.
Smooth - acting Revolving Cylinder and Dial.
Patented Multi-disc Clutch — Starts Easy — Stops Fast.
STOP
Revolving, Floating Take-up — Uniform tension assures large, even and compact rolls.
Modern, Rugged Tripod Construction.
Rugged, Smooth-running Silent Chain and Unit Motor Drive.


Model SR—KNITS PLAIN OR SWISS RIB—up to 56 Yards Per Hr.
Model SA-AF—KNITS WIDE VARIETY OF VARIABLE STRIPES AND PATTERNS — up to 40.5 Yards Per Hr.
Model ROF—KNITS JACQUARD-TYPE FLOATLESS PATTERNS — 30 to 45 Yards Per Hr.
Model MJ—KNITS WIDE DIAMETER AND BODY-SIZE JERSEY—up to 125 Yards Per Hr.
Model ML—KNITS PILE, LOOP TERRY AND PLUSH—up to 35 Yards Per Hr.
Model IC—KNITS FLEECE COATINGS —up to 30 Yards Per Hr.

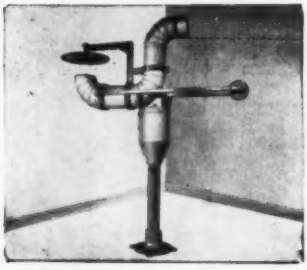
Supreme's extraordinary engineering progress has emphasized versatile, high speed production of top quality cloth at low cost. This has been done without sacrificing any of the basic, proven and standard Supreme design features which are familiar to every Supreme user. These features play a vital part in making every Supreme machine a profit-knitter.

Ask for complete, free information on any of the Supremes shown here.

SUPREME KNITTING MACHINE CO., INC.
105 JOHNSON AVE., BROOKLYN 6, N. Y.

Southern Rep. and Showroom: THE MALLUCK CO., 711 S. Tryon St., Charlotte, N. C.

SK-144



Type M Truslow Blending Attachment*

For Picker or Gauze Rooms

An inexpensive, superior way of mixing or blending different stocks. The Type M (motor driven) blender has a built in ¼ HP 16½ RPM output speed gearmotor driving the rotating arm, with the necessary wiring passing down through the vertical supporting column.

The stock coming from the mixing picker is blown by a fan through 12 or 14 inch piping to the rotating arm, against a turbine cap or deflector. The combination of rotating arm and deflector distributes the stock evenly in the form of a heavy snow storm.

Send for Bulletin 3108.

* *Patented.*

Curtis & Marble
MACHINE COMPANY
WORCESTER, MASSACHUSETTS

SPHERICAL TANKS on Tubular Towers

• The COLE Spherical Tank on Tubular Tower is a pioneer in its field. We design and erect special tanks of this character. It provides an attractive and serviceable unit —economical to maintain, efficient in service and pleasing in appearance.

Write for special booklet on these modern welded Spherical Tanks which provide gravity water pressure and for copy of latest Cole catalog—"Tank Talk."

R. D. COLE MFG. CO.
NEWNAN, GA. Established 1854

TANKS TOWERS CYLINDERS VESSELS

to a considerable extent dependent of unknown factors." Since the maturity of the cottons selected for this Wamsutta experiment did fall in this region, possibly some of the "unknown factors" have been accounted for. Small differences in fiber fineness and maturity can amount to considerable differences in nep count, particularly when the nep count is low to begin with.

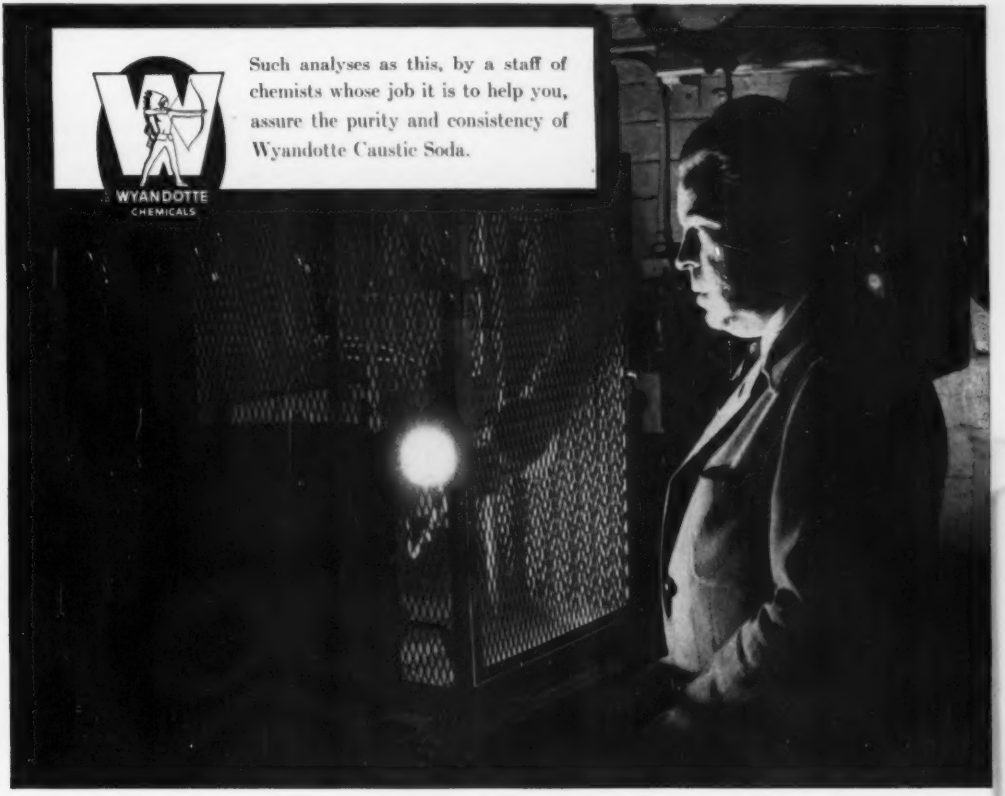
Production vs. Sales

(*Continued from* page 157)

should be a textile man, although a capable manager from another field can prove to be a success. And the production-control department requires people who are exact and meticulous, yet who have the judgment to know when they can afford to be flexible.

Although the overhauling of a company sales and production planning organization and methods cannot be done overnight, it is far less expensive to have this job done than it is to continue with out-of-date and inefficient practices. The remuneration paid a competent specialist from outside the organization is immeasurably less than the losses suffered by a company because of poor planning and control. These losses include decreased sales because of dissatisfied customers, a cumbersome and top-heavy organization, excessive inventories, and serious disturbances to production. Furthermore, good production control forces improved quality and better manufacturing practices. It will throw the spotlight on the company's cost and industrial-engineering methods.

The textile industry employs more people than both the automotive and aircraft industries. But it is more dispersed, and the individual units are smaller. Planning by each individual textile company is not on as large a scale as is necessary by a General Motors, Ford, or Chrysler. The planning experience has not been as intensive or as broad. The textile industry also is much older than many of the metal industries. It has contributed many ideas that were adopted in other fields. But it has concentrated largely on effective manufacturing improvements, better labor utilization, and improved costs. Only very recently has sales and production planning started to come in for its proper share of attention. Once the textile industry concentrates on this problem in a broad way, there is little doubt that it will contribute many advanced ideas also in this phase of industrial activity.


WYANDOTTE
CHEMICALS
Such analyses as this, by a staff of chemists whose job it is to help you, assure the purity and consistency of Wyandotte Caustic Soda.

Wyandotte CAUSTIC, ready for use on arrival, meets strictest requirements

Absolute control, in manufacture and shipment, guarantees you a caustic soda which needs no further processing.

For any caustic soda needs, you'll find that you can't do better than rely on Wyandotte Chemicals.

Throughout the manufacturing process, constant analyses are made to assure rigid control of purity and *absolute consistency* within each grade of Wyandotte Caustic Soda.

Mercury Cell Caustic

You can prove to yourself, for instance, that Wyandotte Mercury Cell Caustic, *as delivered to your mill* (in special tank cars with an "M.A.-2" caustic-proof lining which prevents iron pick-up in transit), is actually as pure as most reagent grade caustic used in laboratories.

Let us help you

If you'd care to make an analysis of any caustic, ask us for our booklet on analysis procedures for caustic, soda ash, and bicarb. And for help in specifying the right grade for your processes, get in touch with your nearest Wyandotte District Office. *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in Principal Cities.*

Wyandotte
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For more information, write direct or use Reader Service post card.

Greater efficiency of LAUREL soaps, oils, finishes keeps your wet processing costs down —

Whether for fashion or industry, your yarns or fabrics will win greater favor, give greater service . . . and cost you less when they're processed with Laurel soaps, oils, finishes. Scientifically developed, laboratory-and mill-tested, Laurel wet processing agents are pure, uniform, dependable. Processors find Laurel products yield smoother, more efficient production, better dyeing, bleaching, finishing. Write or call the Laurel Technicians for recommendations.

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Wm. F. Berkelet's Sons
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This business paper is a member of the Associated Business Publications. It's a *paid*-circulation paper . . . which means the editors must keep their magazines well sold, well read. They meet other editors in clinics, conferences and courses . . . working to make a good paper a better paper, to serve you in more ways. Your business paper is worth every minute you spend with it!

TEXTILE WORLD

One of a series of advertisements prepared by THE ASSOCIATED BUSINESS PUBLICATIONS

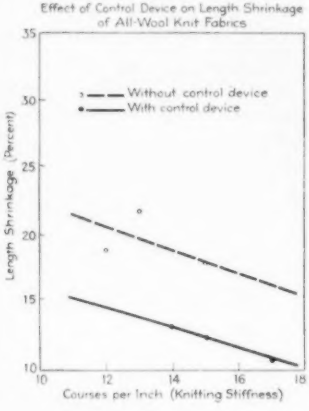
Knit-Fabrics Shrinkage

(*Continued from page 143*)

in that it decreases with increasing knitting stiffness, and there is a constant increase in width produced by the use of the control device.

FORM-FITTING GARMENTS. For most purposes, there is a distinct advantage in producing a fabric that has a natural tendency to shrink in width since this is the direction of greatest elasticity and stretch. Garments made of such a fabric will be more form fitting and have less tendency to become baggy in use and laundering.

It is probable that mills using the device will find it necessary to deter-



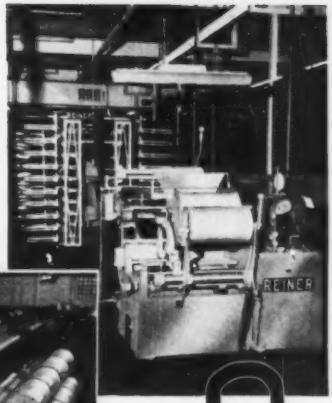
Shrinkage of Fabric

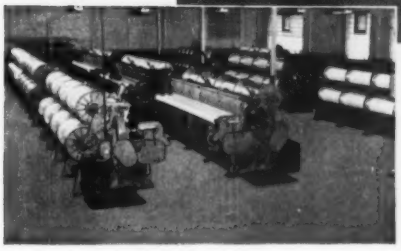
Courses per in.	Shrinkage in length (%)	Shrinkage in width (%)
WITH ATTACHMENT		
12	18.9	8.1
13	21.7	1.5
15	17.8	6.4
WITHOUT ATTACHMENT		
14	13.9	17.9
15	12.4	20.1
17	10.9	19.9

Knitting Stiffness

Cam Setting	Knitting Stiffness (courses/in.)	
	With Attachment	Without Attachment
2.50	12	14
3.25	13	15
4.00	15	17

Tricot at its best!





(Photos Courtesy Holly Knit, Inc.)

Available: 2 and 3-bar machines, with 2-bar machines convertible to 3-bar use and vice-versa—long needles for coarse gauge fabrics —knitting widths 168" and 84"— all gauges—automatic oil feed lines throughout—sturdy, rugged construction — pattern wheel or chain link drive—positive cloth take-up—and other features.

Another Success Story

Good planning, good management and an all-Reiner warp knit installation are the combination for the success of Holly Knit, Inc., makers of fine tricot cloth. We are proud to state that only Reiner Tricot Machines, Warpers and Creels were selected by this progressive and modern mill and that they have proved their worth and excellence in 'round the clock operation.

Those interested in the manufacture of fine tricot cloth owe it to themselves to find out more about Reiner Machines. Richly illustrated catalogs are available upon request. Remember, Reiner manufactures a fully inter-related line of warp knit equipment, from cone to knitted fabric.

The newest Reiner Tricot Machine assures speed with safety; an ingenious but easy to handle beam let-off and other mechanical devices add quality to quantity. In short, when you are operating Reiner Tricot Machines, you are assured of Tricot at its Best!

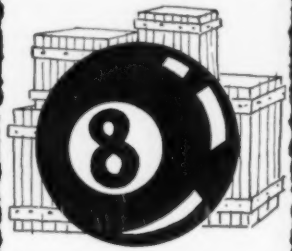
FOUNDED IN 1903

ROBERT REINER INC.

550-564 GREGORY AVENUE
WEEHAWKEN, NEW JERSEY

10 MINUTES FROM TIMES SQUARE. Take Bus Nos. 61 or 67, from Platform No. 60, Port Authority Bus Terminal, 41st Street and 8th Avenue, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-6882

are your
DELIVERIES



behind the
EIGHT BALL?

Servospeed
ELECTRONIC-MOTOR
SPEED CONTROL

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DELIVERY

- 110 volt and 220 volt models
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- Continuous Duty Rated
- Reliable-Efficient-Economical

Other models available
to ¾ hp.

Servo-Tek
products co.
4 Godwin Ave. Paterson, N. J.

mine the maximum tolerable width shrinkage for a given construction and to gauge the dimensions of the device so that no increase in width over this amount will be produced.

Where wet processing is to follow the knitting operation, it is likely that fabrics knitted with the device will elongate slightly more during the wet operations than will similar fabrics made without the attachment.

However, because of increased knitting stiffness, it is probable that the residual length shrinkage of the fabric produced with the attachment will be much less than is normally obtained. Confirmation of this fact will have to await actual production runs on mill equipment.

Weave-Room Charts

(*Continued from page 167*)

ter to prepare a chart or graph with the long side toward an improvement of conditions and the short side toward an adverse trend. This chart construction has a physiological effect on the observer because the graph will look unbalanced until the curve lines, bars, or other symbols are brought nearer the center of the chart.

In the preparation of graphs depicting waste and costs, several different methods can be used. The curved line or the bar graph with appropriate figures and explanation in the borders will show a clear picture. If the chart is made for posting on the bulletin board, a more elaborate chart can be made.

4. Filling Waste

Making this filling-waste chart does not require a great amount of artistic ability. For graphic presentation of costs and waste, elements such as the actual number of items, the amount in pounds, or the cost in dollars can be used. Many of these items can also be figured on a percentage basis, but a little study of the subject will show the best method of presentation.

Correctly prepared graphs will help in pinning down excessive costs and waste and will also show when and where progress is being made.

Of course, making a graph does not in itself help in the correction of any adverse condition. It is the information derived from the graph and the action taken that actually gets results. The graph will serve as a barometer to show what is being done.

5. Broken Picks

The blocks in this weave-room floor plan represent the individual looms, and each block contains the loom number. One weave-room second

DE-SIZE
cottons and
synthetics

WITH THE I.H.E.

STEAM DE-SIZER

Made for use with either cotton or synthetic fabrics, this unit will be built in dimensions specified, for de-sizing fabrics in range with washers, etc. Uniformly saturated atmosphere at 210 to 215 F. is maintained within. Inside surfaces and cloth rolls are stainless steel. Bottom rolls have external friction drive sprockets to provide for tensionless movement of cloth through the steamer.

Please write for detailed information.

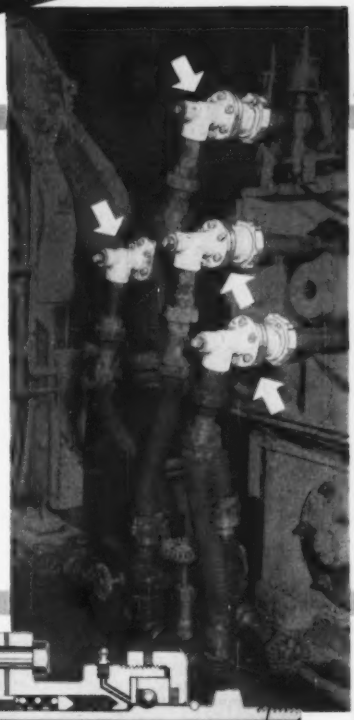
SPECIALIZED DRYING, CURING AND SINGEING EQUIPMENT FOR THE TEXTILE INDUSTRY

INDUSTRIAL HEAT
ENGINEERING CO.
121 CLEVELAND ST
GREENVILLE, SOUTH CAROLINA

"Your JOINTS really solved a Problem for us!"

Says MAINTENANCE ENGINEER in this Mill

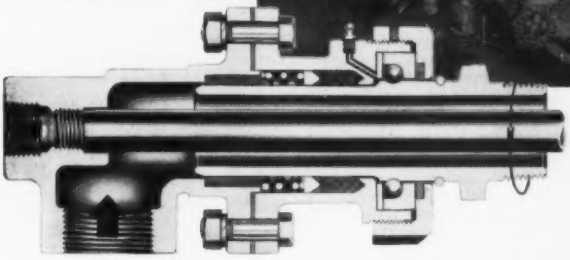
- Free-Floating, Low Torque Installations.
- Up to 50% Power Savings.
- Better Temperature Control.
- Low Maintenance, No Adjusting.
- All Parts Easily Accessible.



LOW TORQUE (freedom from friction drag) is the key to Barco's *"free-floating"* revolving joint installations. With this type of installation, Barco offers numerous advantages: power savings as high as 50%... very low maintenance requirements... quick, easy accessibility of parts... better temperature control... ability to withstand vibration and hard usage.

Take a look at Barco's new Type IBR Revolving Joint. Note the wide spacing between bearings which holds bearing loads and wear to a minimum. *Let us give you the complete story; ask for recommendations.* BARCO MANUFACTURING CO., 1834C Winnemac Ave., Chicago 40, Ill. In Canada: The Holden Co., Ltd.

Left: Ability to stand up under high speed and continuous duty has made these Barco Joints popular with the user.



For complete information on this new Type IBR Revolving Joint, send for Bulletin 300.

BARCO *Revolving* JOINTS

For Textile Machine Dryers, Slashers, Dry Cans, Sanforizers

FREE ENTERPRISE—THE CORNERSTONE OF AMERICAN PROSPERITY

All Colors in the Rainbow — PACKAGE DYED ACETATE YARNS

Stylers and Designers can have unlimited use of colors. In batches 10 lbs. to 2000 lbs. per color. Will supply yarn or commission dye your yarn.

★

Atlantic Rayon CORPORATION

Dyers and Converters of Synthetic Yarns for All Industries

Plant at Providence 1, R. I.

NEW YORK REPRESENTATIVE

Empire State Bldg.

Fifth Ave., New York 1

★

hand used this chart to reduce the mispicks on his job. Each day the cloth-room supervisor itemized the defects of all cloth graded. Checking through this list, the second hand made a dot in the block representing the loom making a mispick. He then placed the chart on the bulletin board:

At the end of the week, some of the blocks were still blank while others had as many as 40 dots in them, each representing a mispick. By this method, the faulty looms were located and fixed. The weavers and loom-fixers were able to quickly locate and concentrate on any other looms that showed a tendency toward making mispicks.

The floor-plan chart is also convenient to use during loom overhauling. Its use saves a lot of time that would be used to check through a long list of numbers to determine the looms needing attention. Appropriate symbols such as letters, figures, crosses, etc. can be placed in the blocks to show that the loom has had the take-up, left-off, battery, or other part overhauled.

Another use for the floor-plan chart is to find trouble spots in the room, such as poor ventilation, inadequate humidification, inferior loomfixing, etc. By the use of dots to represent a certain amount of production, seconds, costs waste, parts, etc., a pattern will soon develop and the spots needing attention will show up plainly.

Value of Charts

Any regular sequence of figures can be converted to graphic form. Absenteeism, industrial accidents, labor turn-over, figures dealing with production, and many other items can be shown on graphs.

When working with graphs, one is impressed by the fact that a definite pattern will begin to take shape. Things that at first glance seem to be wholly unrelated subjects begin to tie together and follow the same trend. For instance, if the percentage of absenteeism is high, the trend will be toward low production, high seconds, and increased accidents.

Charts and graphs are valuable plant psychological tools. If kept simple and direct, they make attractive bulletin or display-board fillers and will attract more attention than a page of figures or printed matter. Anyone who can recognize a picture can get the meaning of a graph, for a graph is a group of figures in pictorial form. If a graph is complicated and accompanied by a lot of text and figures, it destroys its purpose and causes confusion.

Many mills make small copies of all

* first Kalman floor laid in 1916 still in use!

No question about a Kalman concrete floor's ability to "take it". Testimony tells again and again of Kalman ruggedness.

For the key to maximum durability in your flooring, ask about Kalman "absorption control" — write for bulletin.

KALMAN FLOOR COMPANY
110 E. 42nd St., New York 17, N. Y.
BOSTON • CHARLOTTE • CHICAGO • CLEVELAND
DAYTON • DETROIT • HOUSTON • LOS ANGELES • PHILADELPHIA • SAN FRANCISCO

Weave Mills that Require

ASBESTOS FILLING

Rely on

LAZENBY WINDERS

For plain, metallic or reinforced asbestos yarn we can supply Cop & Bobbin Winders to produce maximum yardage and uniformity.

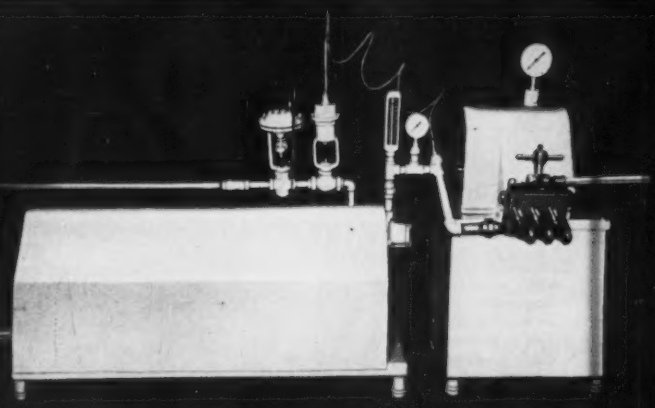
Send us a small supply of your Asbestos Yarn and we will wind and return with Testwind Report and Catalog.

F. A. LAZENBY & CO.
3106 ELM AVE. BALTIMORE, MD.

Better Slashing and Weaving

with the SCOTT & WILLIAMS HYDROPULSE

- no waste of sizing
- saving on starch
- saving on steam
- better process control
- increased weaving efficiency



The Scott & Williams Hydropulse consists of a heat exchanger and a high pressure homogenizer designed to work in tandem.

The Scott & Williams Hydropulse is engineered specifically for textile warp size preparations. It automatically prepares homogenized size at the rate of slasher consumption.

1. You eliminate sizing waste. All the size mix goes to the homogenizer, and all the starch is used. There is no chance for starch to stick to cooking kettles as in older, slower, batch methods.

2. You save on starch costs. Use less expensive, thick, boiling starch instead of costlier modified thin boiling starch.

3. You save on steam costs. Recent tests show *50% less* steam is required by the Hydropulse as compared with old-fashioned batch methods.

4. You get better process control. Major variation in size quality is eliminated because of more precise methods of mixing and handling.

5. You obtain increased weaving efficiency. Since only *fresh* size is used viscosity is closely controlled, and other troubles such as shedding, hard size and soft warps minimized.

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NORRIS Super-Stroke
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graphs used and file them in ring binders. This collection forms a ready reference and a permanent record, which becomes more valuable as time passes. Although the charts and graphs described here are used in the weaving department, the same methods can be used any place a series of figures is available. After the subject matter is decided upon, the shape, size, and form of the graph will usually be apparent.

Nep Reduction

(*Continued from page 138*)

Means of directing air flow to prevent sucking waste back into the work have been accomplished by some mills.

. . . Carding

The action between the lickerin and cylinder, because of the directions of rotation and angles of the wire is purely a transferring. Neps are reduced and yarn quality improved if the surface speeds of the lickerin and cylinder are more nearly alike than is traditional. A 9-in. lickerin would have to go 900 rpm. to equal the surface speed of the cylinder, but operating speeds of 800 rpm. give the best safe results.

The traditional speed of 425 rpm. has been kept at this level apparently by a fear of damaging the fibers, but the cotton fiber is tough. No deterioration of fibers or yarn strength has been found associated with the higher speeds. On the contrary, improved evenness has helped yarn strength.

Higher lickerin speed has resulted in increased removal of motes, fly waste, and good fiber. Experimentation is still going on to determine the best angle of the mote knives and the best type of screen.

The setting of flats to cylinder must be close, but the difference in quality between 0.005 and 0.010 in. is not as critical as might be supposed. Above 0.010 in. the settings become more critical, and nep formation increases rapidly. With the proper clearance, neps can be carded out or at least not encouraged to form.

The ideal setting for doffer to cylinder is 0.005 in. Why the need for a closer setting here than for another carding point at the flats? In any carding action, transfer is included if there is a place for fibers to lodge. In the case of the flats, they are soon loaded with good cotton, heavy imperfections, and neps. In the case of the doffer, the web of fibers is removed continuously and fibers can transfer readily from the cylinder if encouraged to do so by an intimate proximity. Fibers that do not transfer are carried around by the cylinder, and here is

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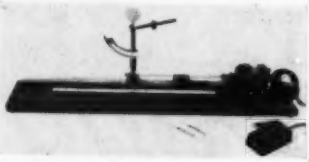

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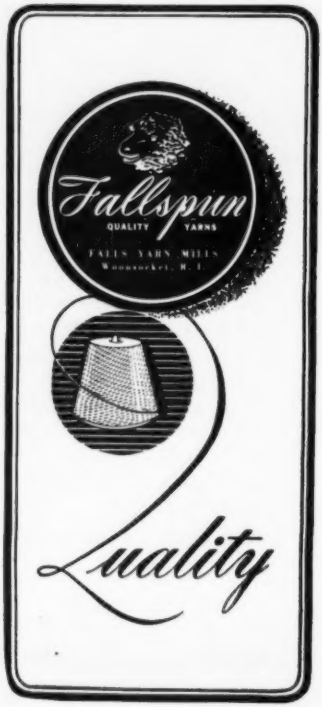

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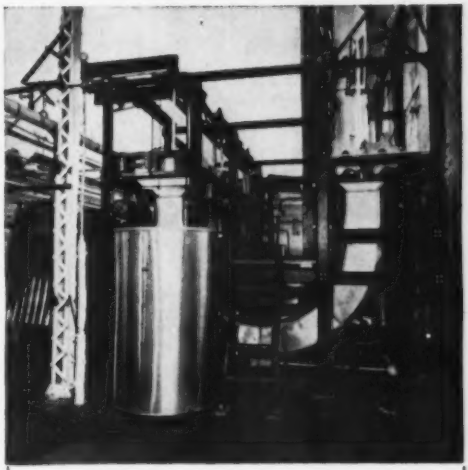

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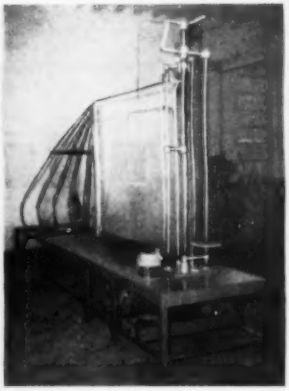

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where the frictional manipulation occurs, for the fibers are dragged over a screen and must be subjected again to the action of the back plate, flats, front plate, and doffer.

Incidentally, the evaluation of neps at the card is made by counting the neps per given area and calculating the neps per 100 sq. in. or per grain. Early in the program at the School of Textiles, a device was made to facilitate the rate of getting a nep count. A plate with a cover that has 10 1-in.-diameter holes on which the web can be lifted from the card while the card is in operation was used.

. . . Drafting

In attempting to predict final yarn quality for neppiness in terms of web quality at the card, we found that for carded yarns the number of neps in the yarn were higher than at the card web. Investigation revealed that neps were formed during the drafting processes.

Whether this nep formation can be defined as friction or rolling is not too important; the important fact is that neps do form. The conclusion is that, as far as possible with due regard for evenness and blending, drafting operations should be kept at a minimum if neps are a significant factor in quality.

Somewhat removed from this particular study, a subsequent program for determining the effect of unidirectional drafting in comparison to the usual bi-directional drafting was studied by a graduate student at the School of Textiles. The study revealed that bi-directional drafting was the better; but in analyzing the sliver with a low-powered microscope, it was found that fibers became hooked and the knee-bend of the hook would catch other fibers. In this way, a nep was started; and eventually the lassos would tighten to form a nep.

This action seemed to be definitely more prevalent when the fibers are fed through drafting rolls in the same direction. If the fibers are reversed in direction in a second system of drafting, a better chance for opening these hooks resulted. This whole subject should be studied further.

We found that any manipulation caused more neps. Thus, processing through a drafting system twice increased the neps by a tangible amount. More strikingly, if cotton is run through a picking machine time and again, the final product is a mass of neps, naps, and small rolled balls. An opening and picking line was run all of one day to show visitors how cotton was cleaned. The final product had been transformed into a mass of tiny balls. Very likely the nep forms the nucleus of these balls.

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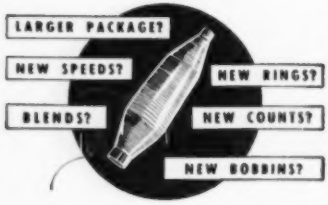

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Carpet-Beam Let-Off

(*Continued from page 163*)

let-off instantly stops regardless of the position of the operating contact in the tensiometer.

3. When the loom is stopped, either binder or stuffer beams can be operated manually in unison by means of a "forward" pushbutton. This feature provides slack in the warp if needed. The motor runs in the forward direction as long as the pushbutton is depressed.

4. When the loom is stopped, the motors for either binder or stuffer beam can be reversed manually and operated in the take-up direction simultaneously. In the reverse direction, the motors operate only as long as the pushbutton is pressed in and the over-tension contact of the tensiometer remains closed. Thus, when full tension is reached, the motor is stopped automatically even though the operator continues to press the "reverse" button. A small solenoid brake is applied automatically to bring the motor to a quick stop and prevent overshooting.

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The principal advantages of the "On-Off" type of regulator system, compared to proportional regulator systems, are as follows:

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3. "On-Off" control requires no recalibration or special compensation for temperature, humidity, age, etc.

4. "On-Off" control is more stable in operation than proportional control when the system amplification is made high enough to give satisfactory tension control over a wide range of let-off speeds and changes in beam diameter.

Outerwear Knitting

(*Continued from page 125*)

less work for the learner if he double-ties the cones. Once the cones are double-tied, it should be pointed out, the learner has more time to devote to watching the machines without fear of a cone running out. The thought of less work will sound good to the learner and he will accept the instructor's method at first just to see if the work is made easier. After he double-ties a set of cones he will see

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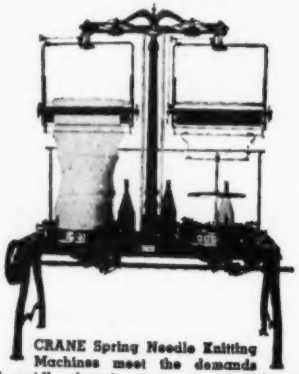

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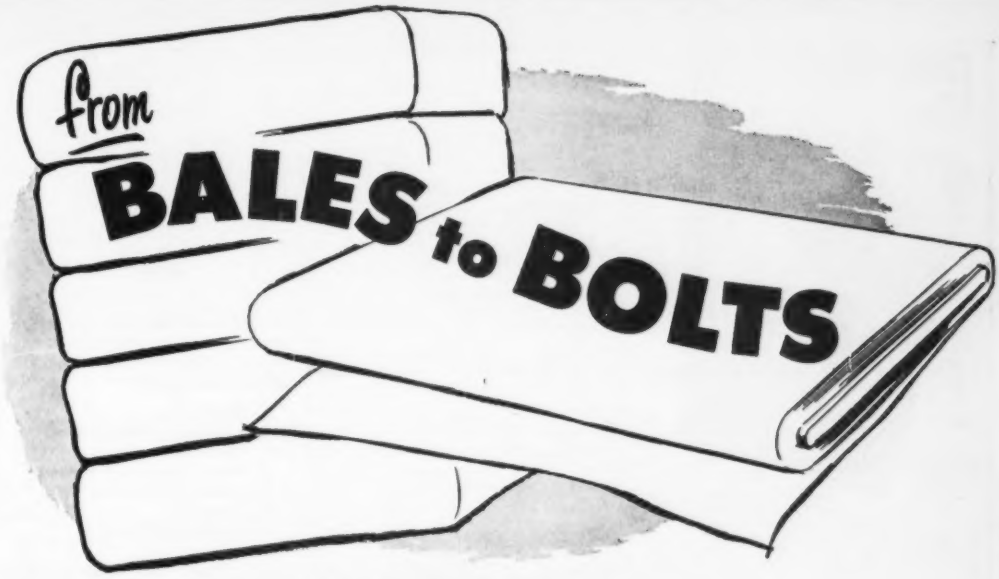

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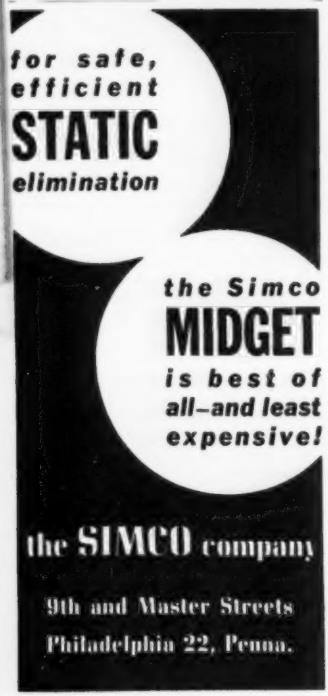

for himself that the method is the best.

If the instructor can put across to the learner that he is trying to show him the best and easiest method of performing each operation that will enable him to become an expert knitter, he will find little trouble in having the learner accept his methods.

Use Reviews and Tests

To determine how much knowledge the learner has acquired, it is necessary for the instructor to review orally each lesson. Reviewing the lesson helps the learner memorize the facts and also indicates to the instructor whether he is doing an effective job of teaching. This review should be followed up with a performance test that will indicate the amount of skill acquired by the learner.

Applying the Principles

Now that we have discussed the basic principles, we are ready to apply these principles in the knitting room. Learning knitting will go along more easily if persons suited physically and mentally to the job are selected. Idealistically speaking, the person best suited for knitting should be tall, slim, careful, observant, neat, even-tempered, and should have worked previously with machinery.

Realistically speaking, this doesn't mean that a short person will not in time become a good knitter. However, if there are several people to select from, it would be best to keep these requirements in mind.

Of course, no one can say from the appearance of the applicant whether he is careful and observant. In addition, if there is a choice, say, between two people, one with clerical experience and another who has worked as a winder in a cotton mill, it would be wiser to choose the latter.

From our experience we have found that North Carolina workers make excellent knitters and that women make better knitters than men. They are careful, observant, and neat. They also believe in giving an honest day's work for an honest day's pay. Younger girls and boys are not so likely to be good knitters because they usually lack the stability found in older people.

Let us now assume that we have chosen one of the applicants to become a learner. Our instructor, who has considerable knitting experience and who has previously worked with learners, introduces himself to the learner and remarks that in our mill we have only the latest-type Supreme knitting machines. He explains that the fabrics knitted are used in the

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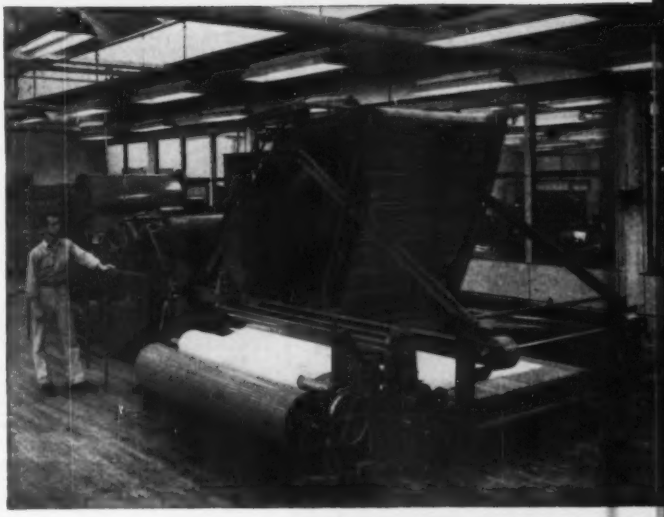
Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N. Y. February, 1951

New Equipment for Experimental Production of Non-Woven Fabrics Installed by Avisco



The newest type, full-size web and bat forming equipment has just been installed in Avisco's Textile Research Department to round out research facilities for bonded fibrous materials.

The new machine produces garnett fibrous webs and cross-laid mats up to 84 inches wide. The garnett is equipped with workers and strippers similar to a roller card but clothed with wire designed to handle fiber over an approximate range of 1.5 to 10 denier in 1½- to 6-inch lengths. The doffer and floor aprons are equipped with variable speed controls to regulate the weight of web and mat.

The camel-back crosser lapper feeder arrangement can deliver a cross-laid web to the floor apron at right angles to the doffer and in most any width up to 7 feet. A cross-laid web can be built up on the floor apron into mat form of the desired weight, as it is progressively drawn off through a set of four compression rolls which give the mat a slight draft as well as make it more compact. The compressed mat is then wound on the tight winding head to put it in a form easily handled for whatever processing may be required.

A heating element has been installed in front of the compression rolls so that mats containing thermoplastic fibers may be heat set or bonded if desired. It is planned also to install an attachment so that the crosser lapper will feed directly to a take-off roll to give a straight laid web or mat instead of feeding transversely to the floor apron.

This garnetting equipment is part of a large new installation of new and improved textile machinery in Avisco's Textile Research Department for the study of all phases of the textile industry. Mill men interested in the operation of garnetting equipment for the production of fine-quality webs or heavy cross-laid mats of rayon or other fiber blends are invited by Avisco to view this equipment.

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manufacture of polo shirts. With this background, the learner's curiosity as to the use of these fabrics is satisfied.

Instruct on Full Set of Machines

One of the first questions the learner will probably then ask is "How many machines does a knitter operate?" It is important for the instructor to operate a set of machines and not just one or two, thinking he can do a better job of teaching. If the learner watches the instructor operate two machines, he will expect that a set means two machines. Then if he has to run more than two, he may feel that the boss is taking advantage of him.

The learner will be very anxious to imitate the instructor. When he sees the instructor put up an end, he will think it very easy, and he will also want to put up an end. However, it is best for the first couple of hours to just let the learner watch the instructor. The instructor can casually explain his actions, but he should not delve into technical discussions. He should try to make his work look as easy and simple as possible, but at the same time caution the learner that it takes years of experience to make the work of a knitter look very easy.

After the first few hours, the instructor can allow the learner to put up an end and start the machine. However, the learner should be made to find out why the end pulled down. Usually a lump or a knot caught in the porcelain is the reason. After putting up the end, the learner should be told to wrap any loose yarn around the cone and to check for twisted ends before starting the machine. The reasons for doing these acts should be explained to the learner. A well-informed learner is in a position to do a better job at all times.

The learner may have a tendency to press down too hard on the handle when starting the machine. He should be impressed with the fact that the machine should be started slowly and smoothly in order for the parts to enmesh properly. As soon as the handle is down as far as it will go, the learner should be taught to take his hand away as quickly as possible to allow the handle to knock off and stop the machine if necessary.

The learner can also be allowed to tie and double-tie cones. After loading up one machine, he should load up another. There is nothing like practice to increase the skill of the learner.

The First Day

Putting up an end and tying yarn are two skills the learner should acquire the first day. He will probably look clumsy and slow doing these jobs, but that is to be expected. It is important not to rush the learner or make him feel inferior in any way as he is performing these acts. In fact, it may be necessary for the instructor to slow down the learner. Some learners are so anxious to show what they have learned that their attempted speed prevents them from correctly performing the above acts.

Before quitting time, the instructor should review briefly what he has taught the learner.

At the end of the first day, the instructor is in an excellent position to judge the abilities of the learner. He may come to the conclusion that the learner will never develop into a knitter who will meet the requirements of the job. In that case, he should notify the learner before he leaves the mill and explain the reasons for his decision.

If, however, the instructor believes the learner has the potentialities of a good knitter, he should tell the learner that he is progressing satisfactorily. The learner may reply that he doesn't think he learned enough. However, it should be pointed out to him that it is more important to do well what he has learned than to learn a great many things that he will quickly forget.

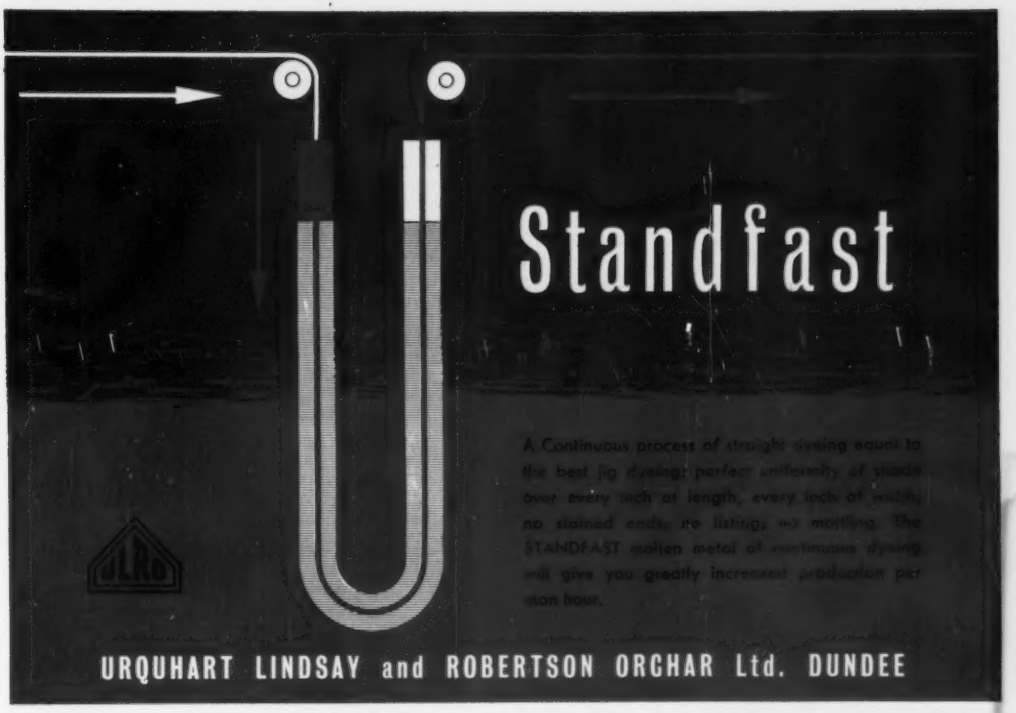
The Second Day

When the learner arrives for work the following day, the instructor should point out the various items the learner should do as he takes over a set of machines. These include checking both sides of the cloth of each machine for damages and an examination of the pattern to see if it is being knitted correctly.

The learner should then be instructed to inspect each yarn rack and to take notice of which cones are running low and need double-tying.

After taking care of this responsibility, the learner should then be told the method the mill uses to determine the correct time for cutting off a roll. Some mills have a counter on each machine, and after a certain number of revolutions, the roll is ready to be cut. Other mills allow the machine to run a certain number of hours before cutting the roll.

Up to this point, the learner is performing the skills he has learned the previous day— tying yarn and putting up ends. He is now ready to be shown, in detail, the operation involved in cutting off a roll. The steps in cutting off a roll are numerous, and we have found that a procedure sheet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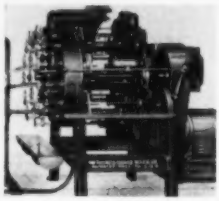

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listing the steps involved in this operation helps the learner to memorize the steps. In fact, it was one of our learners who gave us the idea of listing the procedure after she said it was very difficult for her to remember what she had to do to cut off a roll.

The accompanying procedure sheet lists the steps we teach for cutting off a roll.

After the knitter has read the procedure sheet, it is advisable for the instructor to cut off a roll and have the learner check the procedure sheet as the instructor comes to each step. This method will help the learner become familiar with the steps and at the same time give him a better understanding of what each step is supposed to mean. When the next roll is ready to come off, the instructor should allow the learner to perform the steps listed on the procedure sheet.

The learner will find that handling the air gun is not as easy as it looks. When blowing off the bottom tension ring he will blow too hard and probably tangle a few ends. Then is the time to impress him with the fact that it is important to have control over the amount of air coming out of the air gun before an effective cleaning job can be accomplished. The instructor should encourage the learner to get the feel of the air gun and should demonstrate to the learner the proper way of holding the nozzle to control the flow of air.

Observation Helps Both Learner and Instructor

At all times, the instructor should closely observe the learner. This observation will help him evaluate the progress of the learner and will also give the instructor an insight into his or her shortcomings. If the learner has difficulty putting up an end, he should be encouraged to take the ladder and closely examine the top stop motion. The instructor should exhibit patience and show a real desire to help the learner progress. In doing so, he will earn the gratitude of the new employee.

At the end of the second day, the instructor should review the procedure sheet for cutting off a roll and make sure that the learner understands fully the meaning of each step.

It is up to the discretion of the instructor whether the learner should be taught new skills on the third day or whether he should be allowed to practice the ones he has already learned. If the instructor believes the learner is ready to proceed with other skills, he can then demonstrate the procedure for fixing a dropout.

If a dropout occurs with the striping-box finger in knitting position, then the instructor will have to show the learner how to revolve the striping-box drum until the finger is in the "up" position. Before revolving the drum, the learner should be told to see which number is on the top of the knurled knob. Then he can revolve the drum as many times as necessary to get the finger in the "up" position. After the finger is threaded, the drum should be revolved until the same number appears on top of the knurled knob.

Quite a few steps are necessary to repair a dropout, and we are working on a procedure sheet that will help the learner memorize the steps. If dropouts are infrequent, then the instructor should deliberately cause a dropout. The instructor must remember that the time will come when the learner will be on his own and that is not the time for the learner to admit that he cannot fix a dropout.

Teach Learner About Defects

All during the training period, the instructor should point out the various defects in the fabric as soon as they appear. A defect caused by a broken needle is different from one caused by a "bad" needle, and the learner should try to recognize the difference. A horizontal line in the fabric may be caused by a yarn pulling or by thin yarn. The learner should be trained to examine the cloth constantly for defects and to stop the machine and call over the instructor if he thinks he sees anything wrong with the fabric. To help the learner and also the knitter to memorize the pattern, we attach a swatch of the full repeat of the pattern to the knitting ticket. The learner can then look at the swatch and check the cloth as it is being knitted.

Lumps caught in the porcelains are a frequent cause of tight lines in the fabric and dropouts. The learner should be shown the various places where lumps may get caught. Although not occurring frequently, lumps may get caught in the striping-box fingers, and it is wise for the instructor to point out this fact to a learner who may become a little frustrated looking for a lump that he just cannot seem to find because it is lodged in this out-of-the-way place.

One of the problems a learner seems to have is difficulty in dividing his time in order to keep the machines running; somehow one or two machines always seem to be stopping. The learner may think that if he appears very busy, the boss will come over to him and pat him on the back. Maybe there are some bosses

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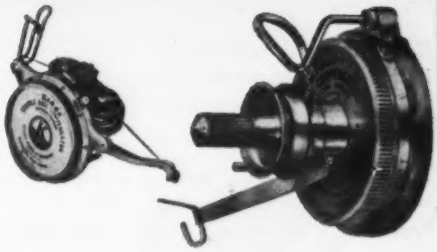

Standard Model 6 to 120 grams 100 to 300 grams

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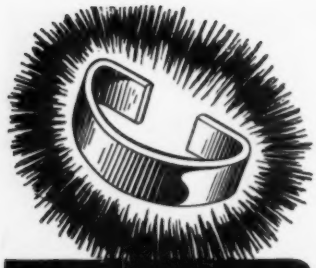

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who like to see the knitters dart in between the machines like busy bees. However, we take the opposite view. When a knitter's machines are running and he appears as if he were doing nothing, then we are more likely to pat him on the back. That is the time the knitter is producing, and every boss wants production with a capital "P."

The instructor should point out that when the learner is taking it easy and all the machines are running, that is when he'll look good to the boss. The learner will like the idea that he can take it easy and still do a good job.

If the yarn on two machines is running low, the learner should load first one machine and then the other. If he is supposed to cut off a roll at this time, the learner should be told to first load his machines. This will take care of one problem. Then he can pay full attention to cutting off the roll.

"What am I supposed to do," says the learner, "if it happens that two rolls have to be cut at the same time?" He should be told that one roll should be cut about a half hour earlier than the allotted time and the other roll a half hour later. This procedure means that there will be a spread of about 1 hr. between the time these rolls have to be cut again. This method makes the work easier for the learner, who will not have to worry again about cutting off two rolls at the same time.

The instructor will have to decide when the learner can be given a set of machines and allowed to assume all the responsibilities of a knitter. Even at that time, the learner should be under the supervision of an experienced knitter. As the learner increases his knowledge, he will soon discover that there is much more to knitting than meets the eye.

Coated-Fabric Sideline

(Continued from page 153)

uses. There are hundreds of applications and market research will bring out almost as many industrial uses.

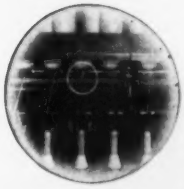
A third question is, if a suitable coated fabric for the potential market is developed, can it be effectively marketed? The answer to this question is an important one, for the success or failure of the coating venture is dependent upon it. Stressing again that it is useless to develop a product unless it can be readily marketed, it appears reasonable that management should give some consideration as to how the product will sell in advance of its development.

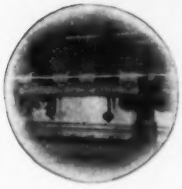
The first method of marketing to be considered is usually the obvious one of selling by means of the present sales force. Sideline sales always have an appeal because, on the surface at least, it appears that in that way the sales can be accomplished with a minimum of expense by the elimination of duplicate travel and other costs. If the market survey has revealed that the principal users of the coated-fabric item will be established customers of the plant, there is little question but what it can be successfully sold in this manner. On the other hand, if sales will be mostly to new accounts, it is likely to be costly, for either the old or the new may be neglected. Much time and effort on the part of salesmen may be required to build up satisfactory confidence and contacts in the new trade, and this work might result in neglect of the old accounts.

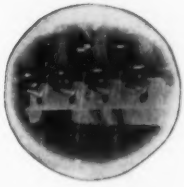
Different approaches to selling are apt to be necessary. For example, in selling a coated fabric to an upholstery manufacturer, one is selling a finished product to a user. In the case of a dyehouse, in dealing with a converter, one is essentially selling a service. In either case, a salesman can do a better job of selling if he knows his product, although the manufacturer behind it is important, too. In spite of this, in selling the upholstery fabric, the prime consideration is to sell the product; while in the case of the dyeing, it is to sell the company and the work it does.

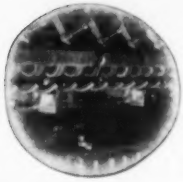
Location of markets is also a factor of importance in analyzing this situation. If the present sales are primarily to converters who are concentrated in the East, chiefly in the textile sections of New York and Boston, obviously it would not be practical for established personnel to cover the automotive trade and its subcontractors, who are located in Detroit and the Midwest. Thus, it may be determined that additional salesmen, the establishing of a special sales department, or the use of a manufacturer's agent is necessary. The latter is often the best solution since he knows the market and the people to be sold. He has available the necessary personnel, and so the cost of sales of the new product is kept at a minimum.

However, it is always desirable to aim toward an ultimately separate sales department. Undivided interests are more practical, for the established salesman is apt to consider his existing business, which is the primary products of his company, as his bread and butter, while the new line is to him









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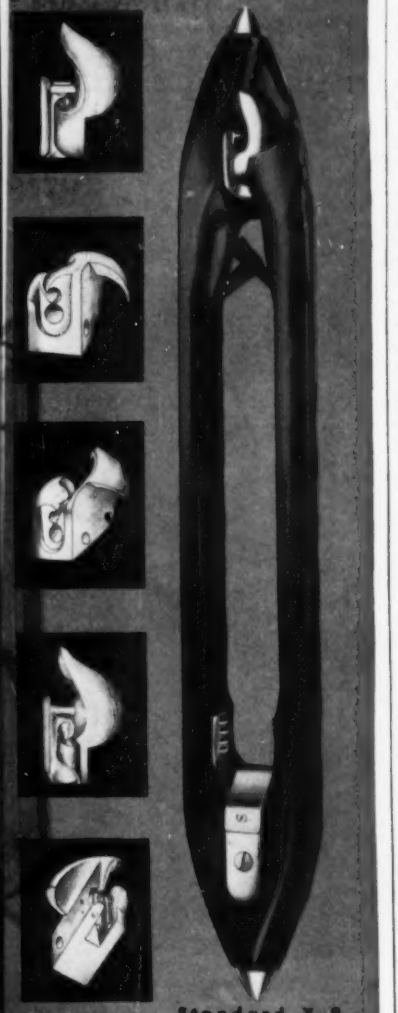
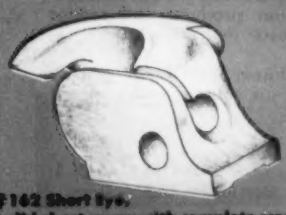


A few of the many popular type eyes

Standard X-2 Draper Loom Shuttle, with series of interchangeable eyes



P 162 Short Eye: solid short cover with complete scroll

as an ugly stepchild, a nuisance deserving a minimum of attention. If the territory to be covered is not too great, and the quantity to be produced modest, one salesman with knowledge of the trade should be able to introduce the product and serve as a nucleus for a further separate department as it is developed.

A fourth consideration is— are established methods of selling coated fabrics acceptable and practical for the producer? The general practice in finishing is to finish for a converter. This means that the finisher is not required to maintain inventories of gray goods or finished fabrics. Most coated fabrics are sold to the fabricator as finished products. This setup requires the maintenance of inventories of gray goods and often of the finished product. It is usually difficult to change buying habits of an industry; so management should decide if it is financially able and willing to assume the expense and risk involved if the market survey has indicated this method of processing and selling is necessary.

As a fifth point, consider the profit margin carefully. It generally should be considerably larger on a per-yard basis than in bleaching, dyeing, or finishing, to make the item attractive. The total yardage volume of a specific item handled is generally much smaller for coating than for finishing; so overhead per yard is correspondingly higher. The finished product is more expensive and not readily rehandled in case of error, which makes the possibilities of loss greater. There is apt to be a greater amount of financial risk in inventories of fabric base and finished product.

Now, if it is established that coated fabrics are worth consideration and that, if suitable coatings are produced, they can be marketed, it becomes the chemist's problem to develop them. This development job will be discussed in the next installment.

Warp-Shed Tester

(*Continued from page 133*)

stainless steel covered with insulating material, has a size capacity of 1,500 ml. It is equipped with a perforated copper tube for the introduction of live steam. The delivery of steam is controlled by a Bristol Pneumatic Recording Controller that can be preset to give effective size-box temperatures over a wide range.

Three stainless-steel rolls (3 in. in diameter by 4.5 in. wide) are mounted in the size box, one serving as an immersion roll and the other two as bottom squeeze rolls. Squeezing is accomplished by weighted rubber-covered rolls riding on the two stainless-steel bottom rolls.

The slasher creel consists of four spools made from Barber-Colman sleeves. Each spool holds 42 ends, giving a warp of 168 ends 1,000 yd. in length. The yarn from each spool is leased to form two sheets of 21 ends, or a total of eight sheets. The warp thus formed is approximately 2¾ in. wide, with a density of 61 ends per in. when 30s yarn is used.

Drying is accomplished by a thermostatically controlled, electrically heated, recirculating-air oven. The yarn makes five vertical passes over positively driven rolls. A stationary lease-rod system splits the sized yarns as they emerge from the dry box. The yarn then passes over a rubber-covered delivery roll and is delivered to a spool constructed from a Barber-Colman sleeve.

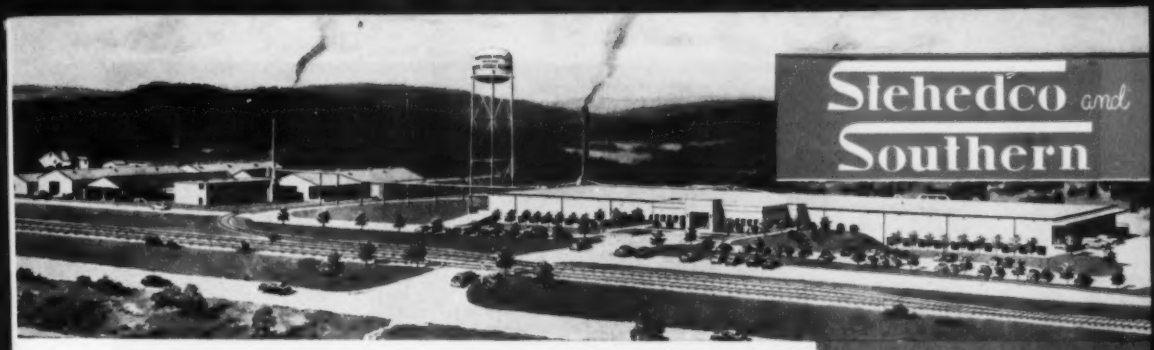
The slasher is powered by an electric motor equipped with a variable-speed Graham transmission. Power is transmitted to all sections of the slasher by a combination of gear and chain drives. The gear ratio is such that the yarn is stretched only 0.5% from the squeeze rolls to the delivery rolls, which is just enough stretch to keep the yarn taut in the slasher. Between the delivery roll and the spooler there is a stretch of 1.7% to give a firm spool of sized yarn.

Wet Lease

In the course of investigating the performance of various synthetic materials as warp sizes, it was found that some materials made excellent warps, but because of their high tenacity it was not possible to lease the sized yarns without excessive breakage. A wet-lease system was developed so that these materials could be run and also so that the shedding characteristics of the standard starch formulas could be improved. For example, a laboratory starch-sized warp that normally gives about 0.75 lb. of shed per 100 lb. of yarn will give about 0.25 lb. of shed when the wet-lease system is used.

The wet-lease unit is placed between the size box and the dry box. It consists of nine removable steel rods (¼x3½ in.) mounted in line and attached to a gear train and a variable-speed motor that turns the rods in the direction of yarn travel. The yarn is separated into eight sheets in the same order that they are separated at the creel. Each sheet passes over one rod and under the next and is thus wiped on both sides.

Although the wet-lease unit has been helpful in evaluating sizing ma-



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Southern—Quality begins with the selection of raw materials and *Southern's* own sawmills control this selection. Its vast factory and warehouses are always assured the pick of the world's finest shuttle materials. The scientific control of the drying process known as *Tempering* developed by *Southern* engineers, still remains a secret.

Southern has also applied its scientific materials selection, design, and manufacturing techniques to developing the foremost line of eye types for the most difficult yarns and fabrics. Controlled from their own foundry through their own patented machining process.

Southern tips, eyes, and grips when assembled into Tempered Dogwood blocks, produce the shuttle required for today's high speed looms and it is these shuttles that have earned for *Southern*, the title . . . "Scientific Shuttlemakers."

Billet flanked high speed [illegible] machines

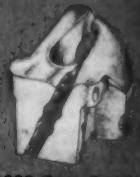
Battery of routers forming profile cuts and intricate indentations

Bending and Covering department using secret formula and equipment

A section of final assembly

One corner of Eye Department

Standard S-6 CAK loom shuttle for 7½" [illegible]



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SMOOTHES THE WRINKLES OUT OF SUIT SALES

Dampness from final pressing stays in coats and suits like water in a sponge. Ten-to-one, a suit shipped damp will arrive looking as wrinkled as last week's wash. But 20,000 "Botany Brand 500" men's garments, tailored each week by H. Daroff & Sons, go out in good shape—will be crisp and sales-room fresh when they arrive.

Westinghouse Air Conditioning does the trick by *putting air to work* in this 90,000 garment storage room. Air is kept at 76° and 45% humidity to pull dampness out of suits in six hours—keep them in press and ready to ship any time. And dirt, dust and grime are locked out behind closed doors and windows throughout the year.

Westinghouse equipment can *put air to work* for you, too—with air conditioning, air cleaning or air handling. Call the Westinghouse Air Conditioning Distributor listed in the Yellow Pages, or write Westinghouse Electric Corp., Air Conditioning Division, Hyde Park, Boston 36, Mass.

Westinghouse Type EVA Evaporative Condensers provide savings up to 95% in water consumption.

Westinghouse Hermetically-Sealed Compressors—unmatched for their vibrationless, quiet operation.

Overhead, out-of-the-way Air Handling Units heat and cool Daroff executive and accounting offices.

YOU CAN BE SURE...IF IT'S

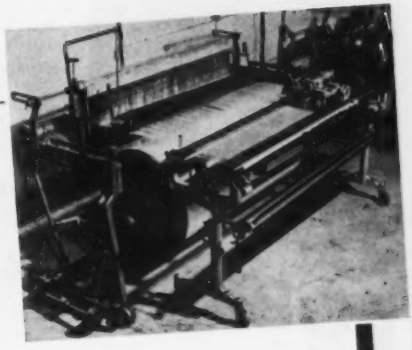
Westinghouse

J-80232

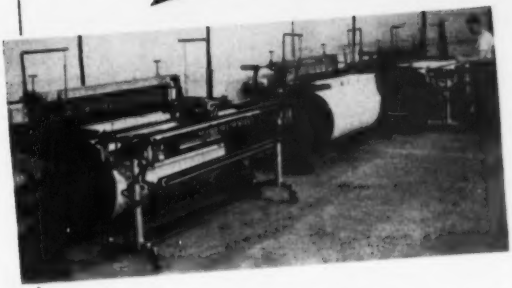
USTER is Unexcelled for Tying Stationary, Too

- **Cuts Loom Down-Time**
- **Ties Entire Warp at One "Bite"**
- **Saves 30% to 70% on Tying Time**
- **Ties 250 to 350 Knots per Minute**
- **Saves 20% to 35% Tying Labor**

In Action at Duplan Corporation Grottoes Division



Tying Stationary with unerring accuracy.



Left: Tying at high speed; Center: Tied warp ready for loom; Right: Operator preparing warp on extra frame.

A large part of Duplan's production is in Viscose, Celanese, and Acetate 75 Denier yarn with from 1/3 to 2 turns per inch, and is tied stationary. The Uster Warp Tying Machine handles this loose yarn with speed and precision. Their Uster is also used on 70 Denier Nylon and on 150 Denier Rayon or combination yarn for Jacquard looms. Most warp widths run 51" and 53" with from 3,000 to 9,600 ends per warp.

Low twist or high twist, crepe to cotton duck, portable or stationary tying—the Uster Warp Tying Machine handles them all with ease, and can be adjusted in a few minutes to accommodate any material. It is the most versatile and economical warp tying machine you can buy.

- **Ties the entire warp at one "bite"**
- **Precision mechanism of unmatched speed**
- **Compact—Convenient—Versatile**

In Canada: Hugh Williams & Co., 47 Colborne Street, Toronto, Ontario

USTER CORPORATION • 2516 Wilkinson Blvd., Charlotte, N. C.

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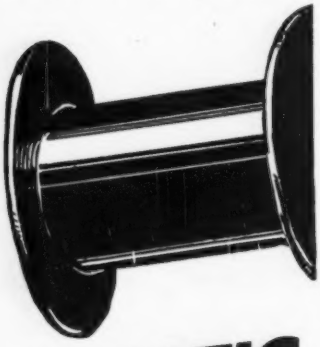
New . . . . . .

STRONG–LIGHTWEIGHT



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Made to Order

You'll find K&J molded rubber-phenolic bobbins, tubes and spindles the economical answer to your replacement problem. They don't chip, crack or split . . . resist heavy impact. And they are extremely light in weight and accurately balanced for smooth, vibrationless operation at high speeds. Send us your blueprints—or part to be replaced—for price and delivery information.

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Wm. T. Wyler, Box 126, Stratford, Conn. Telephone: Bridgeport 7-4293

Wm. A. Chalverus, Philadelphia, Pa.

terials that cannot be run in the conventional manner, it is not used in evaluating warp sizes. However, the excellent results obtained with this system when standard starch formulas are used indicates that this system might be effectively incorporated in existing slashers. Unfortunately, in most mills the space between the size box and the dry box is so small that to install a wet-lease unit would require some changes in the slasher arrangement.

By use of the SRI slasher to prepare warps and the Shed Tester to evaluate shedding, a large variety of starches, softeners, and synthetic materials have been tested in the last 5 yr. In addition, a great deal of mill-sized yarn has been evaluated in the Shed Tester to give, for the first time, quantitative data regarding the amount of shed obtained from yarn sized under mill conditions. By applying mill size formulas to yarn in the laboratory, it has been possible to study the effect of varying components of a size formula to give the most effective and the most economical mixtures.

In practice, it usually requires about 30 slasher runs to completely evaluate a new sizing material. Every tenth run is made with the standard starch formula—such as a thin-boiling starch of about 40 fluidity with a sulfonated tallow softener. After each spool of yarn is collected, it is placed in the Shed Tester room to condition for at least 24 hr. before the yarn is tested for breaking strength, abrasion, resistance, flexibility, size content, and loss of shed.

Methods Engineering

(*Continued from page 145*)

to be studied. One outstanding fact discovered during this job study was the large number of ends down. The amount was so far above the desired ends down per 1,000 spindle hours that special attention was given to the causes for such a high frequency.

One of the first reasons we discovered was the inadequacy of the cleaning operations on the spinning frames.

We also found that a great number of ends down occupied the spinner's time when the work wasn't running well and the spinner didn't have the opportunity to clean the frames as required. As a result, the yarn had more slubs. Ends down and quality suffered. One factor tended to aggravate the other. Of course, this cause was not the only reason for the high frequency. There were other causes to be corrected, and this we did in time. But these results started us thinking: Was our method of spinning right?

Since the spinners did not have sufficient time to clean the frames properly on days when their work was running bad, we decided to separate the cleaning operations from spinning. Now, our spinners stick to their jobs of spinning, and the cleaning operations are taken care of by others.

The cleaning is divided into two parts: (1) roll picking, and (2) all other cleaning operations. This division of work has several other advantages in addition to its primary purpose of reducing the ends down caused by inadequate cleaning.

The division into three simple tasks requires less skill of any one operator. It is, therefore, easier for her to learn the simple job than the more complex one. The advantage of these simpler jobs was fully appreciated when it became necessary to train inexperienced people. Learning time has been reduced, and there is less interference with normal mill operations.

By dividing the work in accordance with the skill required to perform it, the cleaning operations are being done for a lower hourly rate than spinning; therefore, a reduction in costs has been brought about. This reduction in costs was the equivalent of reducing the original number of spinners by three, one on each shift.

(*Continued on page 342*)

42 MILES OF FILAMENT FIBER can be formed from each of the glass marbles being sorted here at the cold end of the marble furnace in the new fiber-glass factory of Libbey-Owens-Ford Glass Co. at Parkersburg, W. Va. First shipment of glass fiber were made last December. Donald L. McClure is factory manager.

Precision Engineered

To Assure Maximum Production

The

WILDMAN

MULTIPLE FEED RIB MACHINE

Assured better styling, uniform sizes, *AND* more than DOUBLE PROTECTION . . . *Offers* a much greater opportunity for pattern designs in sports wear and all other knitted garments . . . *Guarantees* uniformity in garment sizes for yarn is fed under even constant tension . . . *Produces* more than double production with a power increase of only about one-third . . . AND, it is not necessary to stop machine to put on new cones.

INDEED, precision engineered for top production.

Write for details to:

WILDMAN MFG. CO., Norristown, Pa.

FULL CASH REFUND!

...if you aren't convinced that Sylvania Fluorescent Tubes are the finest you've ever used!

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Why you can be doubly certain of Sylvania superiority
A pioneer in fluorescent lighting, Sylvania has further established its leadership by two important developments.
1. Coil Coatings which contain closely controlled amounts of Zirconium Oxide . . . a major factor in enabling Sylvania to triple the rated life of its fluorescent tubes.
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Try 24 Sylvania Fluorescent Tubes of any popular type. If they don't give more light and maintain color and brightness for a longer time than any other brand, send them back with your signed Certificate of Assurance and your money will be refunded.

Look for this sign! It identifies a Qualified Lighting Contractor ready to offer you expert service and Sylvania quality tubes and fixtures.

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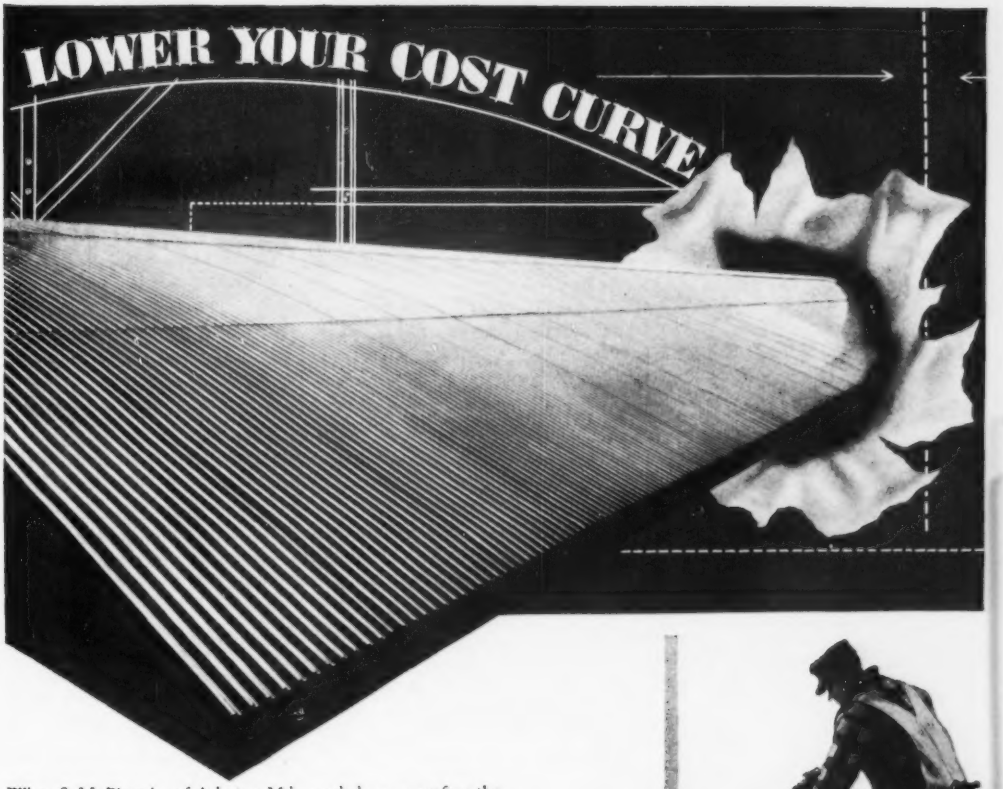

When S. M. Pistorio, of Arbutus, Md., needed a new roof on the curved wood trusses of his big warehouse, he found he could save on initial cost and lower his cost curve through the years with Reynolds *Lifetime* Aluminum Industrial Corrugated.

In this case, 11-foot sheets were used, curved at the site. For other curved roofs, Reynolds can supply curved sheets on request—minimum radius 5'. However, this special use only serves to demonstrate the versatility of aluminum industrial corrugated. On any type of roof it gives the owner the advantages of freedom from rust without protective painting, plus the radiant heat reflectivity that keeps interiors cooler in summer, warmer in winter.

The lighter weight of this roof (56 pounds per square) was especially important on this wood-trussed warehouse. On new buildings this factor can mean substantial savings on framing.

Call Reynolds for technical assistance and application details . . . offices in principal cities. For literature, write to Reynolds Metals Company, Building Products Division, 2007 South Ninth Street, Louisville 1, Kentucky.

Specifications:

Thickness .032"
Corrugations 7/8" deep, 2-2/3" crown to crown
Uniform load support (roof) 80 p.s.f. on 4' purlin spacing
Uniform wind load capacity (siding) 20 p.s.f. on girt spacing up to 7'9"
Roofing width 35", coverage 32"
Lengths 5', 6', 7', 8', 9', 10', 11', 12'

Military demands for aluminum reduce supply, but Reynolds is rapidly expanding aluminum capacity. Rated orders receive priority handling.

REYNOLDS *Lifetime* ALUMINUM INDUSTRIAL CORRUGATED

"The Kate Smith Evening Hour" on Television, Wednesdays—Tallulah Bankhead in "The Big Show" on Radio, Sundays—NBC NETWORKS

 For more information, write direct or use Reader Service post card.

Don't lose customers -by inches

Short measure gains nothing—except dissatisfied customers! Eradicate it—finally and completely—by installing "TRUMETER." This will record production exact to inches on a ticket or mill tag at any point on a run. No more illegible hand-written records—no more waste—no short measure complaints. In your mill "TRUMETER" will add up to one thing only—EXTRA PROFITS!

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"TRUMETER" can be fixed to most Inspection, Plaiting, Winding, Rolling and Doubling machines. Models are available for all types and widths of material—fine nylon, woollens, worsteds—even carpets, plastics, etc. It adds one way—subtracts the other and delivers its printed ticket with one depression of a lever. "TRUMETER" is always accurate—always reliable. There's one for *your* need. Write now for particulars of complete line.

"TRUMETER"

MECHANICAL COUNTERS *for most industrial needs.*

- *MEASURING*
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Write for details of full line to:

TRUMETER COMPANY
1265 Broadway, New York City, New York

Textile Calendar

AATCC, Hudson-Mohawk Sect., Jack's Restaurant, Albany, N. Y., Feb. 1, 1952.

PTI Alumni Assn., midwinter banquet, Warwick Hotel, Philadelphia, Pa., Feb. 8, 1952.

Cotton Research Clinic, National Cotton Council, Pinehurst, N. C., Feb. 13 to 15, 1952.

AMA Mid-Winter Conference on Personnel Problems, Palmer House, Chicago, Ill., Feb. 18 to 20, 1952.

AATCC, Southeastern Sect., Alabama Power Co. auditorium and Purefoy Hotel, Talladega, Ala., Feb. 23, 1952.

AATCC, New York Sect., Hotel McAlpin, New York, Feb. 29, 1952.

AATT, monthly meeting, Builders Club, New York, March 5, 1952.

AATCC, Hudson-Mohawk Sect., Jack's Restaurant, Albany, N. Y., March 21, 1952.

Chicago International Trade Fair, Navy Pier, Chicago, Ill., March 22 to April 6, 1952.

Natl. Assn. of Hosiery Mfrs., annual meeting, New York, April, 1952.

Natl. Packaging Exposition, Atlantic City Auditorium, Atlantic City, N. J., April 1 to 4, 1952.

Fiber Society, spring meeting, Clemson House, Clemson, S. C., April 16 and 17, 1952.

Cotton Mfrs. Assn. of Georgia, convention, Boca Raton Hotel and Club, Boca Raton, Fla., April 16 to 18, 1952.

AATCC, New York Sect., Swiss Chalet, Rochelle Park, N. J., April 18, 1952.

Knitting & Allied Crafts Exposition, sponsored by Natl. Knitted Outerwear Assn. and Underwear Institute, Grand Central Palace, New York, April 21 to 25, 1952.

Natl. Knitted Outerwear Assn., annual convention, Waldorf-Astoria Hotel, New York, April 22 and 23, 1952.

Underwear Institute, annual meeting, New York, April 24, 1952.

CATC, annual meeting and textile tests-methods forum and exhibit, Mount Royal Hotel, Montreal, Que., April 25 and 26, 1952.

AATCC, Hudson-Mohawk Sect., Jack's Restaurant, Albany, N. Y., May 2, 1952.

British Industries Fair, Earl's Court and Olympia, London; and Castle Bromwich, Birmingham, England; May 5 to 16, 1952.

4th International Lighting Exposition and Conference, Cleveland Auditorium, Cleveland, Ohio, May 6 to 9, 1952.

ACMI, annual convention, Haddon Hall, Atantic City, N. J., May 15 to 17, 1952.

Carolina Yarn Assn., annual outing, Carolina Hotel, Pinehurst, N. C., May 15 to 17, 1952.

AATCC, New York Sect., Swiss Chalet, Rochelle, Park, N. J., May 16, 1952.

American Society for Quality Control, annual convention, Onondaga County War Memorial, Syracuse, N. Y., May 22 to 24, 1952.

Textile Institute, annual conference, Assembly Hall, Edinburgh, Scotland, June 2 to 6, 1952.

STA, annual convention, Ocean Forest Hotel, Myrtle Beach, S. C., June 12 to 14, 1952.

AATCC, Hudson-Mohawk Sect., Jack's Restaurant, Albany, N. Y., June 20, 1952.

ASTM, annual meeting, Hotel Statler, New York, June 23 to 27, 1952.

7th National Chemical Exposition, Coliseum, Chicago, Ill., Sept. 9 to 13, 1952.

Third Canadian Textile Seminar, Queen's University, Kingston, Ont., Sept. 18 to 20, 1952.

17th Southern Textile Exposition, Textile Hall, Greenvile, S. C., Oct. 6 to 11, 1952.

AATCC, national convention and dyeing and finishing exposition, Hotel Statler, Boston, Mass., Nov. 6 to 8, 1952.

1953

Natl. Assn. of Hosiery Mfrs., annual convention and conference, Claridge Hotel, Atlantic City, N. J., April 27 and 28, 1953.

Knitting Arts Exhibition, Atlantic City Auditorium, Atlantic City, N. J., April 27 to May 1, 1953.

AATCC, national convention, Stevens Hotel Chicago, Ill., Sept. 17 to 19, 1953

News OF THE MONTH

Radioisotope Techniques Discussed. Textile Research Institute, Princeton, N. J., has by the use of radioactive isotopes been able to measure accurately the rate and amount of adsorption of both sodium and bromide ions and anthraquinone dyes on fibers. It was found that in two hours the bromide ion on the fiber exceeded the dye, but that in 20 hr. the dye had replaced the bromine to a great extent and had exceeded it in amount on the fiber. The distribution under non-exhaustive conditions of the dyes, salts, wetting agents, solvents, etc., between the bath and the textile was studied by sulfonating anthraquinone Blue with a sulfur-35 tagged sulfonating agent. The salt used, sodium bromide, contained both radioactive long half-life sodium and radioactive short half-life bromine. This and other applications of radioactive-isotope techniques to textiles were discussed at the December AATT meeting in New York by Dr. C. E. Crompton of U. S. Testing Co.

Knitting Crafts Exposition. Millions of dollars worth of new machinery, much of it "revolutionary" in character, for the manufacture of all products included in the knitted underwear and outerwear trade will be the highlight of the second biennial Knitting & Allied Crafts Exposition to be held at Grand Central Palace, New York, from April 21 to 25. The exposition is sponsored jointly by the Underwear Institute and the National Knitted Outerwear Assn. The annual conventions of the two sponsoring organizations will be held April 24 and April 22 to 23 respectively. Representatives of the exhibitors on the advisory and steering committee of the exposition include H. W. Anderson of H. Brinton Co., Curtis Bowne of American Thread Co., and Travis Whitsel of Union Special Machine Co. The total of 6,000 visitors at the 1950 show is expected to be exceeded this year. A large contingent of overseas knitters is expected.

What's corn doing "deep in the heart of Texas"?

Research discovered that drilling for oil could be expedited by the use of a binding agent made of a product of corn. This firmed up the side walls . . . also aided in the early flow of sludge. "Black gold" speeded by yellow corn! This is but one of the numerous examples of how continuous basic research in corn helps American industry . . . helps you.

Corn products in textiles

In the textile field new starches, gums and dextrins provide superior formula ingredients for many textile processes. New techniques involving the use of corn products are being developed as part of a continuing research program at Corn Products Refining Company.

If you have a production problem why not check with Corn Products? A complete line of corn products for every purpose is available. Technical service is yours . . . no obligation, of course.

CORN PRODUCTS REFINING COMPANY
17 Battery Place, New York 4, N. Y.

Manufacturers of

GLOBE brand dextrines, gums **GLOBE brand starch** **EAGLE brand corn starch**

"FEEL" isn't accurate enough to JUDGE MOISTURE CONTENT...

A Modern Southern Textile Mill

BARBER-COLMAN
Automatic Electronic
Moisture Content
Controller

Depend on BARBER-COLMAN Electronic MOISTURE CONTENT CONTROL

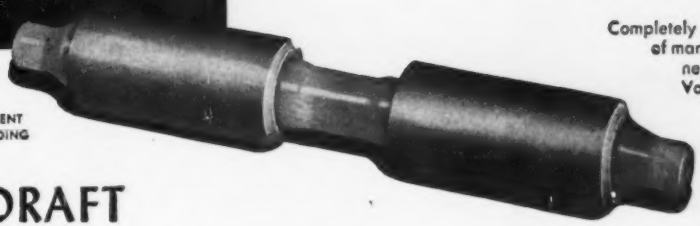
Asking even the most experienced slasher hand to accurately judge moisture content of the warp by "feel" is unfair to human capabilities. This a job for devices such as the Barber-Colman Electronic Moisture Content Controller, which instantly and continuously identifies any change in moisture content by means of a sensitive *resistance-measuring* unit. This intelligence is transferred to a control cabinet through which the slasher drive motor is automatically speeded up or slowed down to compensate for the variation. The exclusive proportioning-with-reset action of the Moisture Content Controller assures positive and instantaneous control without hunting or hesitation at intermediate speeds. At the same time, the measured moisture content is recorded on a visible 24-hour circular chart. The result, proved time and again in many successful installations, is *increased slasher room production, increased weave room efficiency,* and *improved quality of goods.* Barber-Colman Electronic Moisture Content Control can be used in mills running practically any kind or count of yarn. Here is judgment that always renders a "favorable verdict"—let your Barber-Colman representative explain the possibilities of profitable use of M. C. C. in your own mill.

If you want a more detailed explanation, write for a copy of Bulletin F-3156.

BARBER COLMAN

BARBER-COLMAN COMPANY, 1208 Rock Street, Rockford, Illinois

Brand New



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Completely new method of manufacture, at new low price. Various styles.

CLEANDRAFT
Non-lubricating Top Rolls for Back and Middle Lines*

- eliminate all lubricating effort.
- give much cleaner yarn, due to complete freedom from lubricant.
- reduce picking and cleaning.
- simple to install.

Low First Cost — Substantial Savings — INVESTIGATE

*Not for front line use.

CLEANDRAFT Non-lubricating Top Rolls are made for back and middle lines of all standard and long draft cotton Spinning Systems.

For complete information, write

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for
Increased Production

WATSON-WILLIAMS

Pick and Pick Shuttles, Automatic Shuttles on W-3, C-4 and C-5 Convertible Looms

PICK and PICK

Watson-Williams Spindle Shuttle (shown at right) with Patterson Tension, holds a 9½" paper tube, and is becoming increasingly popular on W-3, C-4 and C-5 Convertible Looms for the weaving of pick and pick fabrics.

AUTOMATIC

Weavers on all three looms, when operating automatically, are equally enthusiastic about Watson-Williams Automatic Bobbin-Changing Shuttle which holds an 8¾" bobbin. It may be equipped with Watson-Williams 15L Cotton Eye, 15L Center Tension or W15L Rear Tension Eye.

Ask your Watson-Williams representative to tell you the full story of these two shuttles as they may well apply to your weaving production.

WATSON WILLIAMS Mfg. Co.

MILLBURY, MASSACHUSETTS

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John Wyatt, Jefferson Bldg., Greensboro, N. C.

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Guy C. Burbank, 32 Beaconsfield Rd., Worcester 2, Mass.

WESTERN REPRESENTATIVE:
Francis B. Wells, 805 Linwood Avenue, La Porte, Indiana

NEWS *of the Month*

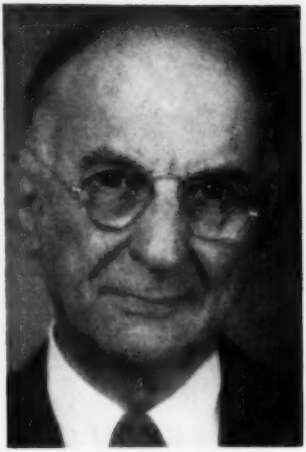
(Continued)

Experimental Arctic Clothing. An experimental plastic underwear containing millions of microscopic air cells that is completely impervious to water and keeps men from freezing when wet in Arctic weather has been developed by the Army. The new two-piece "long undies" have the appearance of foam rubber and are worn next to the skin. At the same time the Navy has developed a three-piece anti-exposure suit to protect flying personnel from prolonged exposure to Arctic elements, consisting of a single-garment insulation liner, a moisture-vapor-permeable and water-impermeable coated outer suit, and a combined latex-and-leather glove assembly. Both the Army and Navy are testing their new products under rigorous weather conditions in the field before deciding how heavily they should have the items produced.

"Proofing" Symposium. Over 100,000,000 lb. of cotton goods might be flameproofed each year if the market were properly developed, according to Kenneth H. Barnard, American Cyanamid Co. Mr. Barnard took part in a symposium sponsored by the Southeastern Section of the AATCC at LaGrange, Ga., in December. Flameproofing now costs about 25¢ per lb. In addition to retarding fire, the treatment increases resiliency and mildew resistance of cotton. Other speakers at the meeting discussed water resistance, mildew resistance, and shrink resistance.

ACMI Cotton-Use Forecast. A sustained increase in the production and consumption of cotton in the United States during the first part of this year at least is seen by the American Cotton Manufacturers Institute, Inc., Charlotte, N. C., a survey made public at the turn of the new year made known. Factors influencing the optimistic outlook were cited as (1) the substantial shrinkage of soft-goods inventories during the last quarter of 1951, (2) the increased textile procurement envisaged in 1952, and (3) increased textile exports, running to perhaps 6,000,000,000 bales this year because of the deterioration of foreign cotton crops.

1952 Carpet Outlook. Prospects for U. S. carpet production are more favorable this year than they were in 1951, Merrill A. Watson, president of the Carpet Institute, Inc., New York, said in a year-end statement. His optimism was based on three factors: (1) more normal retail inventories, (2) lower raw-wool costs, and (3) the wider use of carpet-rayon yarns. During the first 10 months of 1951, 23% of the surface yarns used was carpet rayon. The 12-month total production of carpets and rugs in 1951 was estimated at 62,000,000 sq. yd., 25% below that of 1950.



DR. FREDERIC BONNET, pioneer since World War I in the development and utilization of rayon, is to receive the 1952 Harold DeWitt Smith Memorial Medal. Now consultant and technical adviser to the president of American Viscose Corp. after 30 years with the company, Dr. Bonnet has been active as a technician and as a member of world-known professional organizations since 1906. The award will be made at the March meeting of Committee D-13 on Textile Materials of the American Society for Testing Materials.

1953 Rayon Productive Capacity. U. S. rayon manufacturers by October, 1953, will be able to produce rayon and acetate filament, staple, and tow at a rate of over 1,700,000,000 lb. per annum, according to *Rayon Organon* and Textile Economics Bureau, Inc. This figure is an 18% increase over the 1,444,000,000-lb. capacity cited for November of last year, and this latter capacity in turn is more than 10% higher than that of 1950. Toward the end of 1951 rayon producers were running, over-all, 81% of capacity. Among the various types, viscose high-tenacity yarn was running highest (99% of capacity) and acetate filament lowest (50% of capacity).

Wool-Processing Bid From Guam. Australian businessmen have been invited by the U. S. Governor of Guam to establish wool-processing facilities in Guam and to export this wool to

Gentle as a Mother's Care

Fletcher "WHIRLWIND" EXTRACTOR

permits high speeds with absolute safety to machine...operator...and *all fabrics*

For full details send for **BULLETIN 53.**

The most delicate fabrics cannot snag or otherwise be harmed in the big, rugged "Whirlwind" Extractor. Even at speeds up to 1200 RPM which it attains with effortless acceleration, fabrics are safe, for the mirror-smooth stainless steel basket interior is entirely devoid of rivets, flanges or other projections. There are no reinforcing bands on the stainless steel basket, a feature which provides maximum drainage with reduced windage and power consumption. Great structural strength of the "Whirlwind" assures safety for both machine and operator. The permanence of safe operation is guaranteed by the absence of corrosion-inviting reinforcing members. Other "Whirlwind" features are Big Capacity, High Stability, Space-saving Compactness, Easy Accessibility for Loading and Unloading, Finger-tip Control and Automatic Hydraulic Braking.

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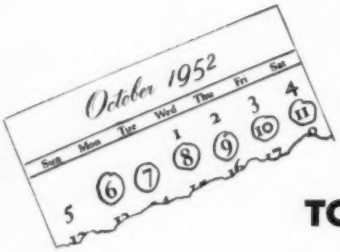

TO ATTEND THE

17th Southern Textile Exposition

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textile machine designers:

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Send me my copy of Bulletin No. 51-10 covering Tension Linkages.

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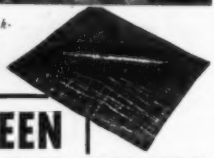
For wrapping, packaging all textiles, for shipment or storage.



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NEWS *of the Month*

(Continued)

the U. S. with considerable savings on customs duties. Guam is a free port. Savings effected would amount to 40¢ a pound and 15% of the value. The governor sees the erection and operation of such a mill as profitable, even taking into account the additional cost of stopping wool in Guam for processing and re-shipment. Trained manpower and American-mill opposition are two problems that would have to be worked out.

Mobilization News Items

OPS Rolls Back Wool Ceilings. Early in January OPS lowered the price ceilings on raw wool and wool tops, effective April 8, to about 20% below the ceilings established in May, 1951. Rollback orders for wool yarns, fabric, and wastes will be issued within the next two months also. In the order, CPR 35, revision 1, spot wool ceilings for 64s average wool, clean basis, were cut from $3.35 to $2.66 per lb. Ceilings for 64s average wool tops were cut from $4.13 to $3.37 per lb. Wool-futures, raw-alpaca, and mohair ceilings were also lowered. At the time of the rollback, the lowered ceilings were still about 40% above market prices. The National Assn. of Wool Manufacturers had protested to OPS that a rollback would only be academic at this time and would tie American wool-buyers' hands later on in the free wool markets of the world.

Long-Staple-Cotton Price Supports. The Commodity Credit Corp. purchase rates for the 1952-crop Amsak and Pima-32 varieties of American-Egyptian cotton have been raised to 107.10¢ per lb. for Grade No. 2, 1⅛-in. staple, usually considered the base quality. In 1951 the purchase rate for this quality was 104.00¢. An allocation differential has been established between the Arizona-California area and New Mexico-West Texas area to take care of transportation costs to the Southeast and New England. Long-staple cotton seed is available for the production of 75,000 bales in 1952, as against a production of 46,300 bales last year. Purchasing on the new crop will be made from Aug. 1, 1952, to April 30, 1953.

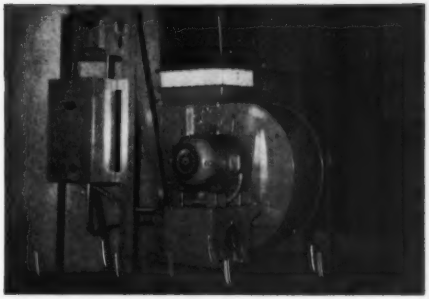
Machinery Committee Advises NPA. Protesting that selection of 1947 as the base period of production is inequitable, 11 members of the Textile-Manufacturers-Industry Advisory Committee recently proposed to NPA that the industry be granted 70 to 75% of its requirements for each controlled material for the second quarter of 1952. This percentage would be equivalent to the 1947 base-period use, after allowing for adjustments for 1951 engineering specifications and "A" products requirements. The committee also suggested that 100% of the industry's requirements for maintenance, repair, and operating supplies be allowed for the second quarter. The consensus of the committee was that a more representative base period would be one which permitted the averaging of production for the combined calendar years of 1948, 1949, and 1950. Production in 1947 was said to be low because of World-War-II reconversion. The committee pointed out that 35 to 40% of controlled materials obtained by textile-machinery manufacturers is used to produce MRO supplies.

Machine-Tool Bottleneck. NPA has frozen "new-model" consumer hard goods in order to free the machine-tool industry from re-tooling. Practically all machine-tool output is now reserved for military or defense-supporting work. Textile-machinery manufacturers are among the heavy industries now being cut back in materials for their normal production and being diverted by NPA into subcontracting for machine tools. The Armed Forces are releasing "mothballed" stocks of more than 50,000 machine tools from World War II. Tool makers are now getting "superpriorities" for materials and facilities.

Heavy-Duck Production. The "converted-mill" production of heavy numbered duck is growing in importance, NPA stressed in reporting preliminary data of third-quarter-1951 duck output. While total cotton-duck weaving dropped almost 6,000,000 linear yards from the 94,500,000 yd. reported for the second quarter, production of heavy numbered duck rose from 18,300,000 yd. in that quarter to 25,100,000 yd. in the third. Fourth-quarter production of converted mills is expected to be about 2,250,000 linear yards more, or another 3,300,000 lb. A further increase in heavy numbered duck may be expected this year as a result of rapid-tax-amortization assistance, NPA indicated. Sixty-six converted mills plus 31 regular duck mills are now weaving numbered and Army duck.

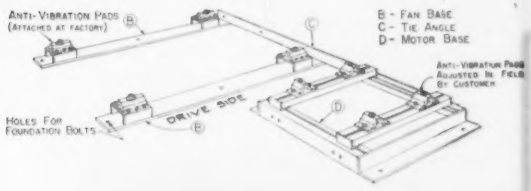
"Buffalo" *Tips on Getting the Best Service from your* **Fans**

ISOLATE FAN AND MOTOR NOISE FROM THE SYSTEM



1. *With canvas duct-to-fan connections —*

Today's correctly designed fan is a quiet running fan. However, any noise or vibration in the fan or motor can be transmitted throughout the ducts. Canvas or other flexible connecting material can isolate much of the noise at its source.

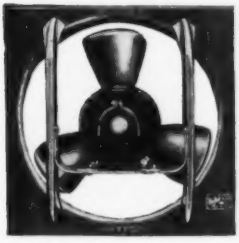


2. *With rubber insulation base*

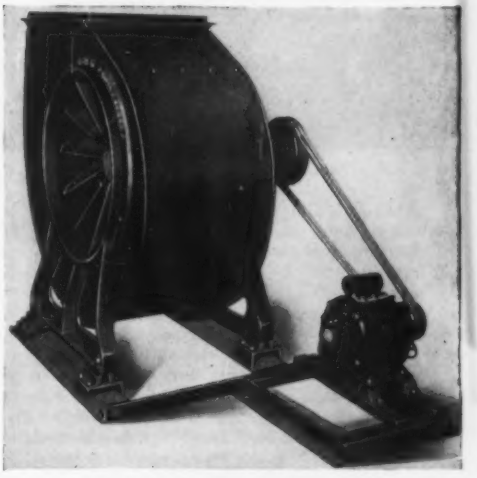
Another place to isolate any vibration or noise is at the fan base. At right, is shown the Buffalo Silent Floating Fan base adaptable to any arrangement of Buffalo Limit-Load Fan. Adjustable anti-vibration pads effectively insulate the fan from the foundation, as far as noise is concerned. Buffalo Limit-Load Fans are extremely quiet to start with, since all wheels are dynamically balanced at the factory for vibrationless operation. Also, Buffalo backward double curved blades, special scroll housing shape and inlet guide vanes further reduce noise.

3. *Resilient-mounted motors*

Where fans are direct-connected to the motor, there is more opportunity for vibration to be transmitted from motor to fan and vice versa. In all Buffalo disk fans like this BREEZO Fan shown, the motors are resilient-mounted and the wheels in balance. For further information on the question of fan or system noise, the "Buffalo" engineering staff will be happy to assist you.



"Buffalo" Breezo Fan, one of a complete line of propeller fans for low-cost local ventilation.



Buffalo Limit-Load Fan with silent, floating base. Sizes available from 600 to 500,000 cfm. WRITE FOR BULLETIN 3737.

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VENTILATING FORCED DRAFT | AIR WASHING COOLING | AIR TEMPERING HEATING | INDUCED DRAFT EXHAUSTING PRESSURE BLOWING

ATLAS-OMETERS

. . . helping to maintain famous Bur-Mil quality

Atlas Fade-Ometers and Launder-Ometers are in constant use in the modern laboratories of the Burlington Mills Corporation, serving two important functions — quality control and progressive research.

To assure unvarying quality in daily production, fabric samples from each phase of processing are subjected to exhaustive tests in Fade-Ometers and Launder-Ometers. These tests help to determine color fastness, bleeding, shrinking, and resistance to washing and mechanical action. Samples that fall short of the high Bur-Mil standard result in rejection of the entire lot.

Bur-Mil designers, also, use these Atlas-Ometers when experimenting with new fabrics. Because the Fade-Ometer so accurately duplicates the deteriorating effects of sunlight, and the Launder-Ometer the effects of commercial laundering, designers can ascertain in the laboratory whether fabrics will withstand actual use satisfactorily.

The machines are adaptable to a wide range of products. They are simple to operate, and may safely be left in continuous, unattended operation.

ATLAS ELECTRIC DEVICES COMPANY
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WEATHER-OMETERS • FADE-OMETERS • LAUNDER-OMETERS

NEWS ABOUT *Suppliers*

Equipment Suppliers

American Rieter Co., Inc., Arlington, N. J., has been formed to promote the sales of Rieter spinning machinery in the United States and Canada. The new company succeeds the Reiter Div. of American Textile Engineering, Inc. For the time being the new company is not contemplating the manufacture of machinery in the United States.

Buffalo Forge Co., Buffalo, N. Y., recently elected two new assistant vice-presidents, Theodore M. Dillaway and George B. Kellogg. Both men joined the company in 1940.

Davis & Furber Machine Co., North Andover, Mass., has appointed Elwyn Atwood its representative in charge of Charlotte, N. C., operations, succeeding Don Buchan, who died recently. With Davis & Furber for 12 years, Mr. Atwood is being assisted by Henry Newby and William Truslow, sales engineers.

Edda International Corp., New York, has appointed Ira L. Griffin & Son, Charlotte, N. C., as its Southern representative for the sale of the company warp-tying and reed-grinding and brushing machines. John Tillett, Jr., has joined Ira L. Griffin & Son as a junior partner. He was formerly a Pneumafil Corp. representative.

Fidelity Machine Co., Inc., Philadelphia, Pa., has made Robert Scholes vice president in charge of engineering. Mr. Scholes, with the company for 13 years, was formerly works manager. Roy D. Faigenbaum has been made vice president in charge of manufacturing for the machinery firm. He was formerly plant superintendent.

Girard Steel Strapping Co., a U. S. Steel Co. subsidiary, has moved its Southern-division plant and offices from New Orleans, La., to Birmingham, Ala. It will occupy the former Pittsburgh Plate Glass Co. building.

John Hetherington & Sons, Inc., Gastonia, N. C., has moved its main office and warehouse to Gastonia. The Boston, Mass., office has been discontinued. Dronsfield Bros. Ltd. is also now being solely represented at the Hetherington Gastonia office.

Hubbard Spool Co., formerly at Chicago, Ill., has consolidated its general offices with its new plant located at Garrett, Ind.

Link-Belt Co., Chicago, Ill., has appointed Dr. Lauriston C. Marshall director of its new physical-testing and research laboratory at Indianapolis, Ind. Dr. Marshall had been professor of electrical engineering at the University of California (Berkeley). L. J. Carson, former general manager of the company's Minneapolis plant, has resigned from his position with OPS and has been named general manager of the Link-Belt Colmar, Pa., plant. The Colmar plant goes into operation during the last quarter of this year.

Mount Hope Machinery

HERMAN J. JONES was recently put in charge of the Atlanta, Ga., office of Saco-Lowell Shops, Boston, Mass., in a move that divided the South into three autonomous territories, each responsible to the company's general sales office in Boston. J. W. Hubbard is in charge at the Charlotte, N. C., office and C. P. Clanton, Jr., at Greenville, S. C.

THE YEARS HAVE PROVEN THEIR QUALITY!

OSP

S. A. Officina Meccanica

SANT' ANDREA

NOVARA, ITALY

The new synthetic fibres will reach the retail market in large quantities in 1952, and the consumer will be the final judge of their suitability and quality.

At this point, not only the physical properties of the new fibres, but also the machinery used in the mills are on trial.

The SANT' ANDREA system incorporates long experience in the manufacture of machines for long staple fibres, and the know-how gained in many installations, here and abroad. And, whenever Sant' Andrea machines are honestly tested and compared with other machines on the market, they find preference due to their superior construction and performance.

Call on us for your machinery requirements for processing wool and long staple synthetics.

• **prompt service** • **early delivery**

• **qualified technical personnel**

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ERNEST L. FRANKL ASSOCIATES

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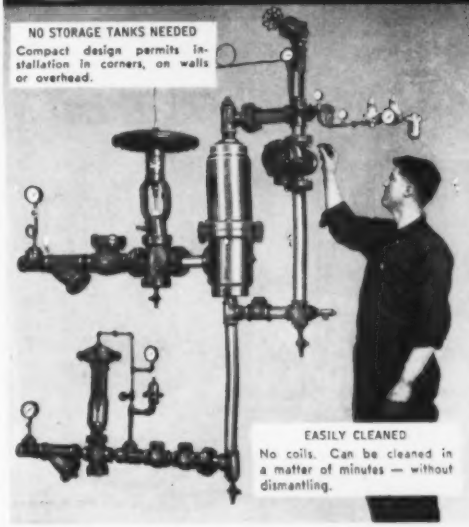
TEMPERATURE CONTROL IS ESSENTIAL *in* BLEACHING and DYEING


NO STORAGE TANKS NEEDED
Compact design permits installation in corners, on walls or overhead.
EASILY CLEANED
No coils. Can be cleaned in a matter of minutes — without dismantling.

Pick INSTANTANEOUS WATER HEATERS *provide*

ACCURATE CONTROL + REQUIRED VOLUME

HEATS WATER INSTANTLY

PICK Heaters are entirely automatic to provide and accurately maintain water temperatures up to 180° F. Water is heated **instantly**—by steam injection. Exclusive Pressurizer Piston eliminates pipe hammering and shaking. Installation is simple, requiring only ordinary pipe connections. Available in seven sizes with rated capacities of 10 to 200 gallons per minute.

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AND MANY OTHERS

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PICK MANUFACTURING CO.

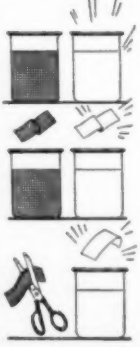
WEST BEND, WISCONSIN, U.S.A.

HOW TO PREVENT IRON STAINS . . .

Try this experiment!
Versene T*
BEAKER #1
(one liter) 500 cc of 5% caustic soda solution plus 5 cc of 0.1 Molar Ferric Chloride (27 gms. $FeCl_3 \cdot 6H_2O$ per 1000 cc water).
BEAKER #2
(one liter) Same contents as Beaker #1 but with 5 cc of Versene T added.

PROCEDURE BY STEPS

First, add the caustic to each beaker. Then, to Beaker #2, add 5cc of Versene T. Heat both beakers to boiling point and add the 5cc of the Ferric Chloride to each beaker. Note the difference between the solutions. Beaker #1 (containing no Versene T) is muddy with rust. Beaker #2 is water-white. Next, put a small strip of clean white cotton cloth in each beaker and boil a few minutes. Remove strips and rinse with water. Note the difference. Versene T has kept its strip white in spite of the iron that was added.



Last, take the other rust-stained strip, cut in half and place one-half in Beaker #2 containing the clear solution with the Versene T in it. Boil for a few minutes. Remove, rinse and compare. The Versene T has now restored the rust-stained cloth to its original whiteness.

VERSENE T — FOR ANY CAUSTIC SOLUTION. Test Versene T now. Then try it in your own caustic solutions. It does on a commercial scale exactly what it will do in the laboratory. Write Dept. D. Send for Technical Bulletin #2. Ask for samples.

NEW VERSENE WATER TEST KIT. Tells total hardness in two minutes. Accurate to one grain per gallon. Versenate Method. Complete Kit $5. Postpaid.

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Associated Chemical Co. of Canada, 14 Darrell Ave., Toronto, Ontario
Chas. B. Tanner Co., 1815 Liberty Life Bldg., Charlotte, North Carolina

News About **SUPPLIERS** (Continued)

Reliance Electric & Engineering Co., Cleveland, Ohio, has put into operation its new $1,800,000 Euclid, Ohio, plant. From Cleveland, 425 employees of the engineering development, research, renewal parts, and tool departments have moved into the new facility, located on a 65-acre plot.

Joseph T. Ryerson & Son, Inc., Chicago, Ill., has acquired the stock and warehouse facilities formerly owned by Seattle Steel Co., Seattle, Wash., and Inland Empire Steel Co., Seattle and Spokane, Wash. Personnel in the new subsidiaries will remain the same as before.

Watson & Desmond, Charlotte, N. C. has appointed Hugh K. Smith, Langdale, Ala., its representative in Georgia, Alabama, Mississippi, and Louisiana. Mr. Smith was formerly with Terrell Machine Co. Watson & Desmond has been given complete Southern representation for Dana S. Courtney Co., Chicopee, Mass., and has accordingly extended its coverage to include the whole Southeast.

Whitney Chain Co., Hartford, Conn., has made J. Henry Anthony plant superintendent in addition to his duties as manager of the industrial-engineering division. Mr. Anthony has been associated with the company for 12 years. The company is now moving into its new one-story, 10,000-sq.ft. plant addition at Hartford.

Chemical and Yarn Suppliers

American Viscose Corp., New York, has transferred Charles H. Scott, III, of Philadelphia, Pa., and John C. Folsom of Providence, R. I., to the New York sales office. Both men have joined the viscose filament yarn division to devote their time to textile-yarn sales. Arthur S. Cookman, Jr., assistant manager of the Charlotte, N. C., district sales office, has been made assistant manager of the rayon-staple sales division in New York.

Augusta Chemical Co., Augusta, Ga., is engaged in an expansion program. Increased production is planned in ready-dissolved naphthols and in the field of Rapidogens.

Bryant Chemical Corp., North Quincy, Mass., and Spartanburg, S. C., has expanded the facilities of its textile laboratory at Hingham, Mass. Lester C. Conner and William B. Briggs are in charge.

Carbide & Carbon Chemicals Co., Textile Fibers Dept., New York, at the first of the year raised the price of dynel staple and tow from $1.25 to $1.40 a pound, f.o.b., South Charleston, W. Va.

Celanese Corp. of America, New York, has elected Kenneth G. Donald, G. W. Seymour, and John D. Fennebresque vice presidents. They will be in charge, respectively, of foreign operations, technical control, and chemical division. The company has set up annual fellowships at Lowell Textile Institute, North Carolina State College, Clemson Col-

NEW $2,000,000 PLANT of Sterling Electric Motors, Inc., of Los Angeles, Calif., located at Van Wert, Ohio, began production of gears, splines, and gear boxes in January. B. L. Peak, formerly at the Los Angeles plant, is superintendent at Van Wert. When full plant capacity is reached in July, 400 people will be employed.

MODEST CAPITAL INVESTMENT

LOW-COST AUTOMATIC WRAPPING

"SHOWCASE" PACKAGES

HAYSSEN-WRAPPED

THE HAYSSEN meets your automatic wrapping requirements because it is low in initial cost . . . well-built . . . mechanically simple . . . easily adjusted to handle many sizes . . . controlled by one operator . . . with speed up to 30 packages per minute. Find out what the HAYSSEN CAN DO FOR YOU!

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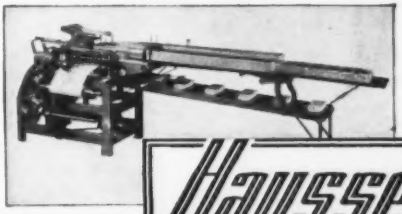

IT PAYS TO WRAP THE HAYSSEN WAY

Hayssen ELECTRIC EYE WRAPPING MACHINES

Gessner adds another surety

to the quality control of your production

Gessner establishes micrometer napping energy control

You can now obtain an accurate measure of napping energy control, thanks to Gessner engineering. Gessner Nappers are equipped with automatic micrometer indicators to tell you exactly the amount of napping energy you are applying. Once determined, you can re-establish the same setting any time, the next day, or next year, and know that you will duplicate the desired nap on whatever fabric you may be finishing.

This energy control will save you precious napper roll setting time. Because of extreme accuracy in measurement, spoilage or uneven goods, from one length of goods to another, is reduced to a minimum.

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WORCESTER, MASSACHUSETTS

Canadian Representative: W. J. Westaway, Montreal, Quebec, Hamilton, Ont.

IMPROVED CLOTH FINISHING MACHINERY

School Daze!

Just because that bathing suit is proper at the beach, she shouldn't assume it's proper for the classroom, too!

And just because one bearing is best lubricated by one particular grade of oil, you shouldn't assume that the same oil is best for *all* bearings on that machine. In many cases it isn't.

OIL CUPS permit you to lubricate each bearing with the oil best suited to that bearing—thus prolonging bearing life, reducing maintenance costs, cutting down-time, boosting production. And oil cups fortunately *cost very little.*

Gits oil cups have been the standard for industry for more than 40 years. Gits Bros. has the largest selection of oil cups available anywhere. Call on Gits Bros. for a prompt, efficient solution to your lubrication problems.

Write for free Catalog No. 60-A

GITS BROS. MFG. CO.

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News About **SUPPLIERS** (Continued)

R. E. WALDO, affiliated with General Motors Corp. for 25 years, assumed the position of general manager of the New Departure Div. at the turn of the year. Assistant general manager of the division since last October, he succeeds Milton L. Gearing.

HARRY KING has been appointed sales manager in Greenville, S. C., for Marquette Metal Products Co., Cleveland, Ohio. Mr. King is a graduate of Clemson College and has been identified with Southern textiles for several years.

lege, and Georgia Institute of Technology as its share in helping produce soundly trained technical personnel for careers in the man-made textile-fibers field.

Dexter Chemical Corp., New York, has made an installation at its plant that jumps its "high-sulfonation" capacity by 100%, giving it world leadership in the production of highly sulfonated fats and oils for industrial use, the company says.

E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., has appointed Thomas L. Hale, Jr., manager of Personnel and Industrial Relations Div., Textile Fibers Dept. He had been assistant manager of the industrial-relations division of the company employee-relations department.

Glass Fibers, Inc., Toledo, Ohio, has elected Raymond W. Capaul vice president and general sales manager. He joined the company in 1948 and had been general sales manager for 2½ years. F. J. Solon, Jr., has been elected vice president in charge of advertising and public relations.

B. F. Goodrich Chemical Co., Cleveland, Ohio, recently elected John R. Hoover president, succeeding William S. Richardson, whose increased responsibilities as vice president of the parent company will include the chemical subsidiary. The company has granted distribution rights in New England for its new nylon-processing size to Polymer Industries, Inc., Astoria, N. Y.

Hercules Powder Co., Wilmington, Del., has named Davis S. Bruce manager of new-product production for the Cellulose-Products Dept. For the past four years he had been assistant plant manager at the cellulose-products plant in Parlin, N. J.

Heyden Chemical Corp., New York, has added to its market-development department James P. Scullin, formerly with Rohm & Haas Co., and Joseph A. Trivisone, a recent college graduate. **St. Maurice Chemicals Ltd.,** Montreal, Que., has been selected by Heyden and Shawinigen Chemicals Ltd. as the Canadian corporation to carry out a joint program to build a $2,000,000 chemical plant at Varennes, Que.

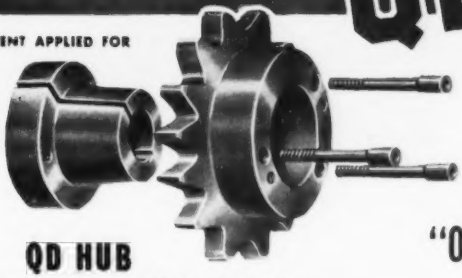
Hooker Electrochemical Co., Niagara Falls, N. Y., has plans under way for a $5,000,000 plant-expansion program at Tacoma, Wash., to increase its chlorine and caustic-soda output.

Libbey-Owens-Ford Glass Co., Toledo, Ohio, has established a district sales office in New York, in charge of Arnold K. McClay. His office will handle fiber-glass sales in New England, New York, Pennsylvania, New Jersey, Delaware and Maryland.

FORT WORTH QD ROLLER CHAIN SPROCKETS

WITH TAPERED SPLIT HUB

PATENT APPLIED FOR

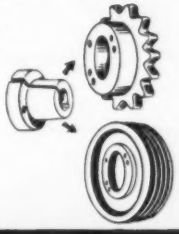


ELIMINATE REBORING!

QD HUB ALSO FITS QD V-Belt Sheave

Speed changes are simplified and "spare" sprockets can be carried more easily.

If your favorite distributor doesn't stock this new item, tell him about it. He'll reward you with better service.



"OFF THE SHELF" SERVICE AVAILABLE FROM INDUSTRIAL DISTRIBUTORS

Reboring of stock bore sprockets to fit various shafts is eliminated due to the various bores available in the QD hub. Installation and removal from the shaft is made easy by the tapered fit of the hub and sprocket. Hub assembly grips the shaft equivalent to a "press fit."

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Duesberg-Bosson WOOLEN CARD and PERALTA MACHINE

(PATENTED)

Shown here: 3-cylinder set, with Peralta Machine. Also available in 2-cylinder and 4-cylinder sets.

All foreign matter entangled in the web as it passes from the doffer is pulverized by the two Peralta Rolls, thereby eliminating this foreign matter from the stock.

BUILT in two sizes, 78¾" and 72¾", this well-known woolen carding machine offers substantially greater production and noticeably improved quality because of inherent design features and operating advantages.

A new 2-cylinder carpet card now in operation in the Duesberg-Bosson Woolen Spinning Co., Jefferson, Mass., is causing great interest.

CATALOG AVAILABLE ON REQUEST

Duesberg-Bosson of America, Inc.

Manufacturers of Woolen Machinery, Developed from a Background of Over 115 Years

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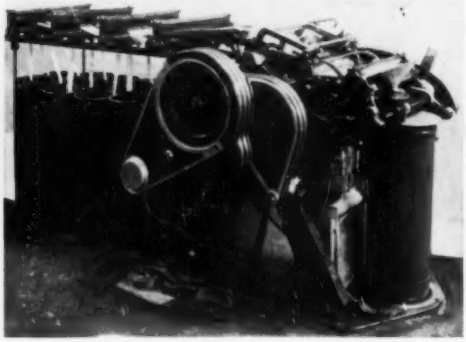
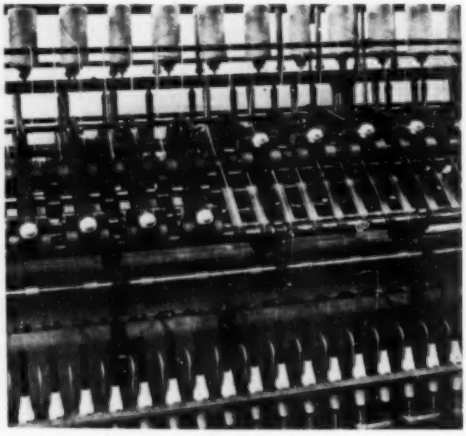
Isotta Fraschini

CONTINENTAL COMBING AND SPINNING MACHINERY FOR WOOL - BLENDS - SYNTHETICS



RECTILINEAR COMB FOR SYNTHETICS
with can creel, special sword and coiler



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Features the patented Isotta Fraschini high draft with spring pressure on feed rolls and front rolls. The adjustable pressure permits the processing of twisted and untwisted slivers from any drawing system such as French, American or Bradford.

Spindles on roller bearings, 4 spindle tape drive, speeds up to 11,000 r.p.m. Constant balloon, anti-marriage and anti-balloon devices. 2 and 2½" ring.

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News About SUPPLIERS (Continued)

Owens-Corning Fiberglas Corp., Toledo, Ohio, has elected John Marshall Briley, former legal counsel, a vice president with general executive responsibilities. Ben S. Wright and E. W. (Pat) Smith, vice-presidents, have been respectively put in charge of purchasing and trade relations and in charge of sales branches and training programs. Edward J. Detgen has been made sales manager of the general-products division.

Pittsburgh Plate Glass Co., Pittsburgh, Pa. is purchasing a three-year-old 147,000-sq.ft. factory at Shelbyville, Ind., as a manufacturing facility for its new fiber-glass division. The new unit, formed last October, is headed by J. Hervey Sherts as general manager.

J. E. MYRICK, a native of Alabama, has joined Stein Hall & Co., Inc., and will travel in Alabama and Mississippi out of Atlanta, Ga.

Rayonier, Inc., has arranged for a long-term loan of $40,000,000 from Prudential Insurance Co. of America, bearing interest at 3¼% and maturing in December, 1971. Proceeds will go to paying off existing loans and to providing funds for future expansion. The company's productive capacity will be substantially increased by mid-1952.

Westvaco Chemical Div., Food Machinery & Chemical Corp., New York, has appointed Arthur S. Smith divisional sales manager for alkalis, succeeding W. N. Wyatt, now district sales manager in Chicago, Ill. W. L. Sager is now divisional sales manager for solvents and Magnesol. J. G. Bronson has become divisional sales manager for barium and miscellaneous chemicals manufactured by the company.

Other Services

Chicago Yarn Men's Club, Chicago, Ill., has elected Donald G. Brewster of Oscar Heineman Corp. as president. Other officers are Wm. C. Napier, Jr., vice-president; Wm. E. Ferry, secretary; and Warner H. Hutchinson, treasurer.

Harris Research Laboratories, Washington, D. C., has made known the return of Dr. Daniel Frishman to the organization. He will work in developing and applying methods for improvement in the quality and processing of wool. Other additions to the staff include Tyrone Z. Denessy from Germany, Marily Ellison, Shirley P. McGinn, Nancy G. Lipps, Genevieve A. Poore, and Anne M. Vann.

Institute of Textile Technology, Charlottesville, Va., has announced that Dr. Dorothy Thompson, associate professor of chemistry and chairman of that department at Sweet Brier College, Sweet Brier, Va., is spending the second semester of this year in research at ITT. She has been doing research in cellulose chemistry for a number of years.

William Iselin & Co., New York, has made known the resignation of Lincoln Cromwell, board chairman for 20 years. Jarvis Cromwell succeeded him as chairman at the turn of the new year. Morton Goodspeed, executive vice president since 1949, is now president, succeeding Mr. Cromwell.

Lowell Textile Institute, Lowell, Mass., recently granted honorary degrees to the following men: Charles Sawyer, U. S. Secretary of Commerce; E. T. Pickard, Textile Foundation; Walter J. Hamburger, Fabrics Research Laboratories; Harold W. Leitch, Pacific Mills Worsted Div.; and George T. Metcalf, New England Textile Foundation.

"DEFINITE BENEFITS AND IMPROVEMENTS OVER-COMING PREVIOUSLY EXISTING DIFFICULTIES"

STATES

BANGOR MILLS, INC.

PEN ARGYL, PA.

Air-Perme-Ator installations, outlined in white, at Bangor Mills, Inc., Pen Argyl, Pa.

regarding the Air-Perme-Ator "DRY" HUMIDIFICATION installations at their plant.

Yes, Air-Perme-Ator's "DRY" HUMIDIFICATION System is becoming increasingly popular with the knitting industry, particularly with tricot mills who need humidification but must guard against rusting of delicate machinery and needles.

The "DRY" HUMIDIFICATION System does just that and more. It is applicable to any industry in which hygroscopic material is stored or processed.

Units with heating and cooling coils available for complete year 'round air control.

Installation is simple. Unit may be supported on ceiling suspended platform and installed during working hours.

A definite asset in achieving high quality and increasing production.

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Explanatory "Dry" Humidification Process booklet will gladly be furnished on request.

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NEWS ABOUT Mills

Cotton Mills

Aberfoyle Mfg. Co., Philadelphia, Pa., is consolidating its executive, administration, and purchasing offices in enlarged quarters in the Fidelity-Philadelphia Bldg. The traffic department, research, general manager's, and controller's offices will also be transferred.

Buenos Aires, Argentina—Local reports are that Japanese interests plan to transfer 10,000 spindles and 100 automatic looms from Japan to Argentina. Sasuke Endo is said to be in charge of arrangements. Technicians will be brought from Japan to operate the plant.

Globe Woven Belting Co. has broken ground for a $96,000 two-story building adjoining its plant at 1400 Clinton St., Buffalo, N. Y. The brick-and-concrete structure will be used for additional shipping and storage space. John F. Beecher is president.

Jackson Mills, Wellford, S. C., plans an addition and alterations to the company's office building. Hudson & Chapman, Spartanburg, S. C., is the architect.

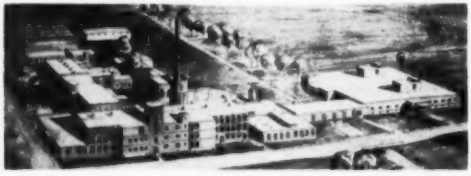
Kilburn Mill, Tryon, N. C., will have its new plant, now under construction, in operation by summer. The company will install twisting, winding, and packaging equipment, and dyeing and finishing machinery, but does not plan to install cards and spinning frames at the present time.

Monroe Cotton Mills, Monroe, Ga., is enlarging its building and equipment by 30%. A total of $650,000 is being spent.

National Automotive Fibres, Inc., has completed a $400,000 plant in Orange, Calif. Equipment has been installed, and production of cotton yarn has started.

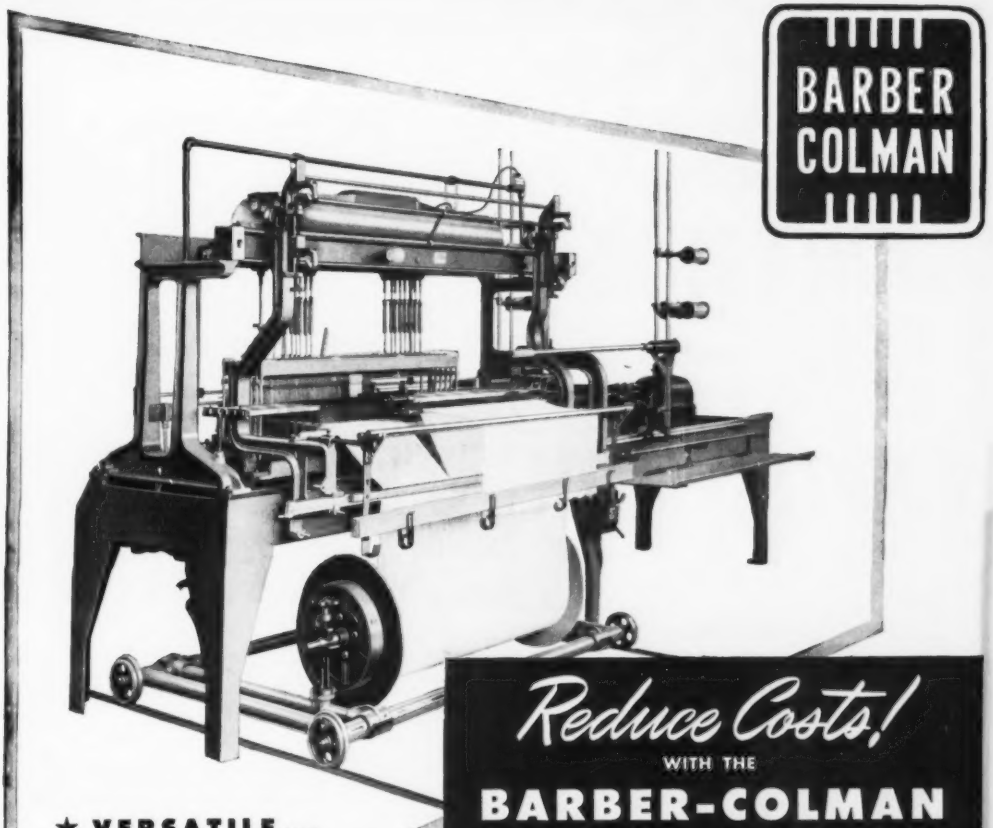
Quitman Mfg. Co., Quitman, Miss., is proceeding with an expansion to double the capacity of its plant. About 300 more workers will be employed when the program is completed. The addition was made possible by a recent affirmative vote in Clarke County, Miss., approving a bond issue of $400,000 for the purpose.

Riegel Textile Corp., New York, N. Y., reports capital expenditures for the first 39 weeks of 1951 of $2,684,138, compared with $2,661,554 for the whole of 1950. The 1951 expenditures covered chiefly new cotton-mill equipment, preparatory and spinning, for space at Trion, Ga., released by moving the glove plant, formerly at Trion, to Greenville, Ala. New sewing machines



ERWIN MILLS, INC., PLANT NO. 8, Stonewall, Miss., has completed an extensive modernization program. Improvements included a new brick-and-concrete warehouse, a new card room adjoining Mill No. 2, and a new one-story weave shed. All machinery was rearranged to provide an easy flow of products from baled cotton to finished goods, and the three main manufacturing buildings are serviced by an automatic conveyor system. An air-changing system, with provision for refrigeration, was installed in the carding, spinning, and weaving departments. Lockwood Greene Engineers, Inc., Spartanburg, S. C., was the architect and engineer. Fiske Carter Construction Co. was general contractor.

BARBER COLMAN



Reduce Costs!
WITH THE
BARBER-COLMAN DRAWING-IN MACHINE

★ VERSATILE...
★ ACCURATE...
★ EFFICIENT...

DRAWS IN HEDDLES, DROP WIRES, AND REED IN ONE OPERATION

Many mills today are running such a variety of weaves, patterns, and stripes that the drawing-in operation becomes a major cost item. *Substantial savings* can be made by the use of a Barber-Colman Drawing-In Machine. This machine will handle any plain, fancy, or dobby weave. It draws-in all the heddles, drop wires, and reed in *one* operation — automatically selecting the proper heddle, drop wire, and reed dent for each thread. Any form of skip draw can be handled as easily as straight sequence, and the draw can be made from either a flat sheet or leased warp. The machine is available in a variety of capacities, drawing as many harness and banks of drop wires as required. Variations in size will take care of all standard loom widths. Modern mills of any size can take advantage of the versatility, accuracy, and efficiency of this outstanding machine to effect important savings in what has been a slow and costly hand operation. Consult your Barber-Colman representative for a discussion of possibilities in your own mill.

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TEXTILE WORLD

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News About MILLS (Continued)

were installed in the glove plant; major units were added to the Trion steam plant; and electric switch-gear at Ware Shoals was replaced. There will be additional installations of preparatory and spinning equipment at Trion in 1952.

Standard - Coosa - Thatcher Co., Piedmont, Ala., unit, is installing Aldrich Machine Works openers and pickers and American Filter Co. Airmat lint arresters.

Utica & Mohawk Cotton Mills, Inc., has begun limited production at its new mill and finishing plant between Clemson and Seneca, S. C. The new multi-million-dollar plant contains 14 acres of space on one floor.

Walton Cotton Mills, Monroe, Ga., has installed additional spinning frames. The number of employees will also be increased.

Wamsutta Mills, New Bedford, Mass., has moved its New York offices and showrooms from 47 E. 34th St. to the Empire State Building. The new location will be general sales offices for all Wamsutta products.

Woodside Mills, Greenville, S. C., will sell its village houses adjacent to its plants in Liberty and Easley, S. C. Employees will be given first opportunity to buy. Woodside disposed of most of its village at its Greenville plant 18 months ago.

Woolen and Worsted Mills

Albany Felt Co., Albany, N. Y., is planning to build a new plant in Canada. The location has not been determined, since several sites are under consideration. The move is being made to overcome the obstacle of Canadian tariffs.

Associated Spinners, Inc., Gastonia, N. C., is building an addition to its plant that will increase production of synthetic-fiber yarns about 30%. The machinery in the new addition will be devoted chiefly to spinning yarns of nylon, Orlon, dynel, Dacron, Acrilan, and other fibers, as well as blends. The mill will continue its basic production of fine worsted yarns.

Berkshire Woolen Co., Pittsfield, Mass. and Moncks Corner, S. C., has negotiated a $400,000 loan, the detailed purpose of which was not immediately disclosed.

Eavenson & Levering Co., Camden, N. J., has ceased operations and approved the immediate sale of the plant. The company, which had operated for almost 50 years, had recently spent more than $500,000 to re-equip the plant with modern wool-scouring and carbonizing machinery. No reason for the liquidation was announced.

Goodall-Sanford, Inc., Sanford, Maine, may shift its operations unless it can obtain tax relief and greater productivity, according to Elmer L. Ward, president of the company. He stated that unless these conditions improve, he will recommend a move to his firm's board of directors.

"NYMOVILLE," Belding Corticelli's $2,000,000 thread-manufacturing plant at Hendersonville, N. C., was opened recently. The plant, which is electronically controlled at all focal production points, will manufacture bonded, non-twisted threads by the Belding Corticelli Monocord process. The building is constructed of brick and insulated aluminum-panel walls and is air conditioned and fluorescent lighted. The plant will reach full-scale production about the middle of the year.

Hot Coffee

for Textile Workers Near Their Work

AERVOID *Vacuum Insulated*
PORTABLE HOT COFFEE DISPENSING CARRIERS

Management is finding that with the older workers, women workers, less experienced workers it is now necessary to employ, a mid-shift cup of hot coffee serviced to workers at their work is a welcome pick-up and refresher that workers appreciate.

Hundreds of large industrial plants have adopted the practice of servicing workers a mid-shift cup of hot coffee at their work by means of AerVoiD High Vacuum Insulated Hot Coffee Carriers.

They find that the saving in time as compared to having workers running around the plant quickly pays for the AerVoiDs.

Hot coffee can be prepared on the premises if you have the facilities, or supplied by some restaurant or caterer, and picked up by your company trucks.

The AerVoiDs will keep coffee hot for hours while awaiting service with the coffee dispensed direct from the Carriers, the fastest, most sanitary way to service coffee in an industrial plant.

Also AerVoiD hot food and soup carriers, AerVoiD bulk milk carriers, the AerVoiD mobile canteen to expedite factory feeding. Ask for Factory Envelope TW-10.

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FEET OF *HOLT* MAPLE FLOORING!

Have gone into textile mills throughout the country since 1920—with complete satisfaction to the mill operators.

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Lining up and spacing needles in a 51-gauge knitting machine — one of the many precision jobs that can be done better with a *Magni-Focuser*.

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IN leading textile plants, Magni-Focuser — the binocular magnifier—reduces eye strain and prevents squinting —thereby speeding production, increasing accuracy and minimizing the chance of errors and accidents. Especially valuable in working on 60 gauge, 15 denier yarn. Restores the usefulness of the skilled hands of many older workers whose vision needs a seeing aid. Prismatic lenses assure optical accuracy. Normal vision resumed by slightly lifting head. Used with or without eyeglasses. Order now for 10-day trial. Return if not completely satisfied. $10.50. Send for free folder.

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News About MILLS (Continued)

Greenville, Miss.—A new mill to be occupied by Alexander Smith, Inc., Yonkers, N. Y., under lease, is being built by the municipality. Contract has been let to A. M. Lockett & Co., New Orleans, La., for boilers and compressors for the mill at $141,022 and $108,080, respectively. The plant is estimated to cost about $7,000,000.

Imperial Mills, Hermosa Beach, Calif., organized to make mohair frieze and pile fabrics, is under the management of Stanley Strasburg of Mid-West Mills, Chicago, Ill.

M. T. Stevens & Sons Co., Marland Mills, Andover, Mass., is making alterations to house a boiler formerly located in the company's Pawtucket Mill, Haverhill, Mass.

Synthetics Mills

Burlington Mills Corp., has announced completion of a multi-million-dollar program for modernizing and enlarging its Brighton division at Shannon, Ga.

Clarkesville Mill, Clarkesville, Ga., has begun operations on a trial basis to test machinery and equipment. Sixty-eight of the mill's looms are in place, and electrical connections are completed.

Dixie Mercerizing Co., Chattanooga, Tenn., is nearing completion of a second spinning unit for synthetic staple. Operations are expected to begin soon. This is a larger unit than the one completed in 1950.

F. Ducharne Fabrics, Inc., Paterson, N. J., has changed its name to Armory Fabrics, Inc. There has been no change in officers or in the financial structure of the corporation.

Fieldcrest Mills, of Spray, N. C., has begun weaving synthetic filament yarns in the building formerly occupied by the Fieldcrest woolen mill. The building has been completely modernized. Improvements include a new wall, bricking up of windows, and installation of air conditioning. All equipment from the former rayon mill has been moved into the building.

Hoosac Mill Co., North Adams, Mass. has arranged an increase in work load from 54 to 60 looms, and will soon reopen.

Statesville Throwing Mill, Statesville, N. C., has been sold to William Rabinowitz & Sons, Allentown, Pa. The mill was formerly owned by William Klopman & Sons, New York.

Textron Mississippi will be the operating name for the new $6,500,000 plant to be built for Textron, Inc., at Meridian, Miss.

Henry F. Thomas, Inc., Forest City, N. C., newly chartered, is opening a plant for winding and twisting fancy yarns of synthetics and cotton. Mr. Thomas was formerly manager of Stonecutter Mills Corp., Spindale, N. C.

Tosconv Fabrics, Inc., Pawtucket, R. I., has installed a Hermas machine in its cloth room.

Westover Mills, Honea Path, S. C., is a new rayon weaving plant that will go into operation around Mar. 1.

Knitting Mills

Carpenter Hosiery Mills, Wytheville, Va., has purchased the Komet links-and-links machines of Rutledge Hosiery Mills, Rutledge, Tenn. The machines have been installed and are now in operation.

Gilmar Knitting Mills, Philadelphia, Pa., has added two new Leighton 3-cut knitting machines.

Glen Raven Knitting Mills, Inc., Burlington, N. C., has broken ground for a new building to house its tricot division. Eight 168-in. machines will be placed in operation. The new plant will be under the supervision of Arthur Rogers, vice president in charge of production for knitting mills. The building will be a one-story brick structure and will be completely air conditioned.

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At last, an adjustable metal picker holder that holds pickers parallel with a bull-dog grip. Easily adjustable with socket wrench to any fraction of an inch. Interlocks picker and picker stick to greatly prolong life of both parts. Can be used over and over with our prepared sticks. Order today from . . .

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This shows how snugly the new Huffman interlocking metal holder bonds picker and picker stick. A simple turn of the socket wrench gives any desired adjustment. Cannot move or slip after adjustment.

Actual unretouched photos at right show damage caused to picker sticks and pickers by the old method of attaching and adjusting with common wood screws.

189 actual case histories of fabric defects

This practical guidebook helps you determine the type, source, and responsibility—more quickly, surely—of defects occurring in cotton, filament rayon, spun rayon, and blended fabrics. Covers gray-goods manufacturing defects from raw fiber through weaving . . . rayon or man-made yarn faults . . . dyeing and finishing faults . . . imperfections in finished garments.

FABRIC DEFECTS

Case Histories of Imperfections in Woven Cotton and Rayon Fabrics
By J. B. GOLDBERG, Research Director, J. P. Stevens & Co., Inc.

363 pages, 6 x 9,
96 illustrations, $6.00
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"A practical guide packed with accurate case histories of defects in textile materials . . . Superb original photomicrographs stud the pages, illustrating fabric-manufacturing defects from raw fibers through weaving and on into dyeing and finishing mistakes."
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2. Defects in Man-made Fibers and Yarns
3. Dyeing and Finishing Faults
4. Defects in Garments
5. Miscellaneous Imperfections
6. The Investigation of Fabric Defects

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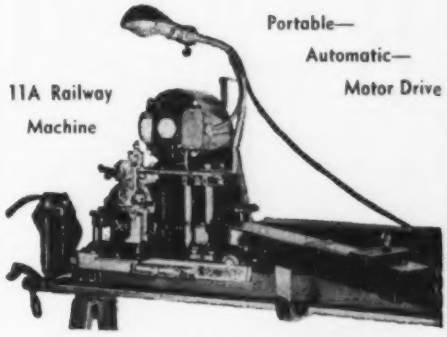

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1. Built to sew any width of goods.
2. Railway frame is made of steel rails.
3. Built with Heavy Angle Iron Cloth Support.
4. *Hinged section* shown open. Eliminates removing Merrow Head to make adjustments.
5. The Merrow Head and Motor travel on ball bearings.
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7. Fitted with our new Automatic Stopping Device. Stops the sewing head at end of each seam.
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Mr. Fekula has had broad experience in a variety of industries in both consulting and operating capacities. Recently he completed an outstanding project for a well-known textile company which brought about close coordination of production and sales. He has been able to apply to textiles many of the principles which have proved so successful in the automotive and aircraft industries.

We will be pleased to give further information about the services rendered by our new Peter M. Fekula Division, as well as by our other departments.

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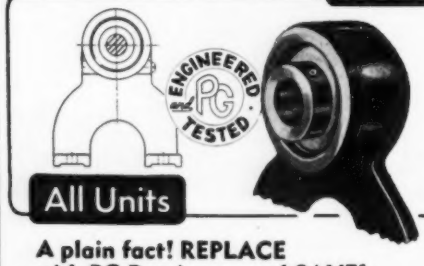

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News About MILLS (Continued)

Globe Underwear Co., Shoemakersville, Pa., will double its capital stock to 1,200 shares. The company's charter covers hosiery as well as underwear.

Gold-Tex Fabrics Corp., Rock Hill, S. C., has awarded a contract for remodeling its main mill building to S. A. Pope, local contractor, for $41,000. Windows will be closed in and an evaporative cooling system installed. Architect-engineer is Biberstein, Bowles, & Meacham of Charlotte, N. C.

Julius Kayser & Co. plans to open a new $3,000,000 mill in Belton, S. C., in the near future. The company is now training operators. When in full operation, the plant will produce 12,500 pr. of women's hose daily.

Knit-Rite Hosiery Mills, Cordele, Ga., will soon move into its new building. At present, the firm is sharing the plant of Cordele Hosiery Mills. The new company is making women's full-fashioned nylon hosiery in the gray.

Otto Kuehnert, Selinsgrove, Pa., is reported to be establishing a new tricot knitting plant there. Four machines will be installed before the end of the month.

Marion Mills, division of Munsingwear, Inc., has opened its Guin, Ala., plant. Its Hamilton, Ala., plant will open in July.

Monarch Knitting Co. Ltd., Toronto, Ont., will move its cotton-spinning operations from the present location at 8 Berkeley St. to its own air-conditioned building, containing 75,000 sq. ft., at Ajax, Ont. New machinery is being installed, and operations are expected to begin around March 1. The underwear-manufacturing plant is scheduled to move about July 1 to a site not yet decided upon.

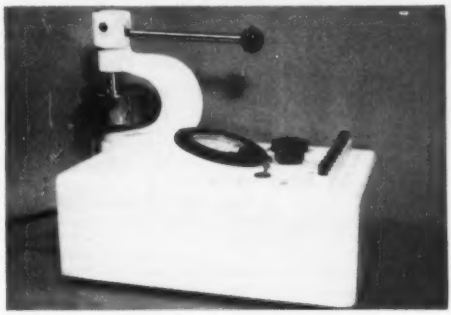
Pennwood Mills, Philadelphia, Pa., has purchased a site adjacent to its nylon-tricot plant at Egg Harbor, N. J., for an addition to contain 24 more tricot machines that will about double the plant's present size.

Run-Prufe Hosiery Mills, Union, S. C., plans an addition to its one-story plant to provide 6,000 sq. ft. of space. The additional equipment will provide about 125 new jobs.

Sanson Hosiery Mills, Corinth, Mass.—Municipal officials have a low bid of $45,621 from William Roberts, of Corinth, to erect a one-story addition to the Sanson plant, to be occupied by Sanson under lease.

A. W. Wheeler & Son, Brevard, N. C., has merged with Chipman Knitting Mills, Easton, Pa. A. W. Wheeler president and founder of the 50-yr.-old company, will resign as president. His son, George Wheeler, will be president. Chipman Knitting Mills, makers of Roman Stripe hosiery, expects production at the plant to be doubled.

THESE WRAPPERS of heavy, moistureproof cellophane, printed by Shellmar Products Corp., have solved for Pacific Mills the problem of keeping sheets attractively and securely wrapped during shipping, storage, and merchandising. Originally used only on Pacific's percale and muslin "Contour" sheets, the packaging proved so satisfactory that the company adopted a similar wrapper for its conventional sheets.



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Roller electrodes are also provided to make the measurement direct in moisture percentages from the running web of material.

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Understand protects yarns like standard starches yet desizes completely in soap and water.
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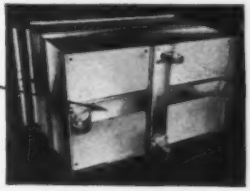

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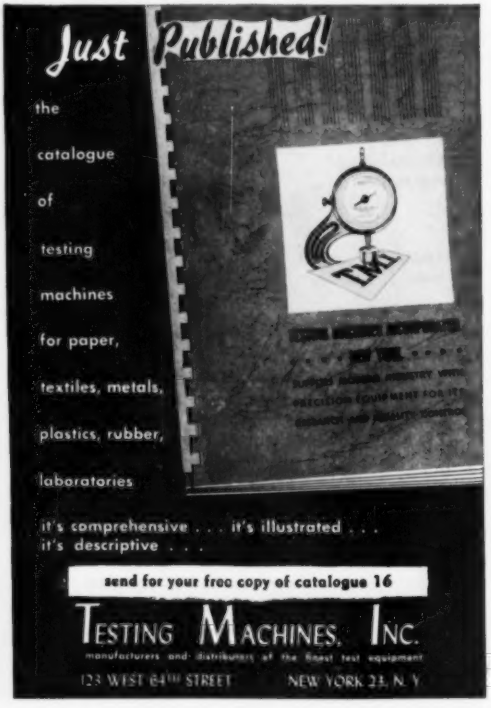


News About **MILLS** (Continued)

Dyeing and Finishing Plants

Apponaug Div. of Aspinook Corp., Apponaug, R. I., has been bought by Frederick G. Brown, vice president of Apponaug for many years and general manager during Aspinook ownership. Mr. Brown has the additional financial support of Joseph Bancroft & Sons Co., Wilmington, Del., and the Lamport Co., New York. The business will be known as Apponaug Co., and its operation will continue as usual.

Dato Hosiery Co., Philadelphia, Pa., has purchased Sterling Dyeing & Finishing Co., Philadelphia, Pa. Louis Segal, Dato head, is now operating Sterling and is adding new machinery to expand production. Sterling will continue to do custom dyeing and finishing. The Sterling plant has a production capacity of 18,000 doz. per week.

Hendor Mills, Paterson, N. J., completed an expansion program during the past year that has doubled capacity for finishing tricot fabric. All wet-processing equipment has been either replaced or lined with stainless steel. Stainless-steel extractors have been installed, and a new stainless-steel continuous boil-off system has been installed. A quality control laboratory has also been added.

Mount Hope Finishing Co.—Officers of this company, which closed its North Dighton, Mass., plant some weeks ago, have taken over Creedmoor Co., Inc., at Camp Butner, near Durham, N. C. The latter company's name has been changed to Mount Hope Finishing Co., Inc. Officers include J. K. Milliken, president; F. L. Daylor, vice president; R. D. Milliken, treasurer; and Edward M. O'Connor, secretary and assistant treasurer. Machinery is being transferred from the Mount Hope plant at North Dighton, and a considerable part has already been installed. The company has purchased 19 acres of adjoining land for future expansion. At the start, about 250 workers will be employed.

National Dyeing & Finishing Corp., Culver City, Calif., is adding new equipment for finishing mohair frieze and pile fabrics. The machinery includes additional dye boxes, a pin-tenter dryer, and Latexing and shearing equipment.

Palatine Dyeing Co., St. Johnsville, N. Y., has installed a new power unit consisting of four transformers with a capacity of 450 kva.

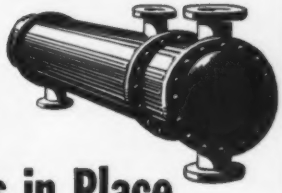
Springs Cotton Mills has received new machinery for preshrinking broadcloth that will be installed in Grace Bleachery, Grace, S. C. The machinery and patent rights to it were purchased from Mount Hope Finishing Co., North Dighton, Mass., where it was developed and operated successfully.

United Piece Dye Works, Lodi, N. J., has started test runs at its new $1,000,000 plant at Charleston, S. C. At present, only dyeing and finishing will be done. At capacity, about 200 workers will be employed.

Warwick Dyeing & Finishing Co., West Warwick, R. I., has received a permit to construct a filter building costing $5,000.

BISHOPVILLE FINISHING CO., a division of Reeves Bros., Inc., Bishopville, S. C., will have its new plant in operation soon. Machinery is being installed, and work is being carried on in the experimental laboratory. Bill Shive, formerly with Pacific Mills, Spartanburg, is in charge of the laboratory and will head the dyeing department when the new plant opens. Lockwood Greene Engineers, Inc., Spartanburg, was the architect and engineer for the building.

Descale Your Heat Exchangers in Place



NO more dismantling and reassembling clogged heat exchangers! Now clean them in-place. Simply circulate through system specially designed Oakite scale-dissolving, sludge-removing materials. Method much faster, far safer than manual rodding, drilling, lancing.

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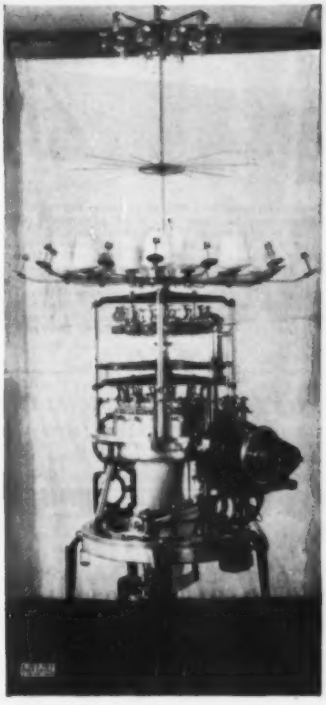
STANDARD EQUIPMENT

Wildman Knitting Machines



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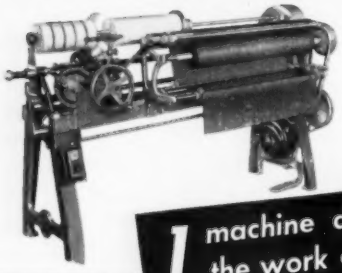
Another of a series of knitting machine builders. Others to follow.

UTICA Combination Winding and Cutting Machine



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THIS fast-producer has all the advantages of two machines, but uses the floor space of just one. Cuts light, medium, or heavy weight, both straight and bias fabrics. Cutter and Winder can be run at the same time. Rigidly constructed for long, trouble-free operation. Has measuring scale for cutting accurate rolls. It's safe — knife, grinding wheel, all gears and sprockets are well-guarded. Equipped with Veeder Root yardage counter. Made in 40, 45, and 55 inch width machines. Make your own bindings — as you need them — from the same material as your product — at lower cost. Write today.

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NEWS ABOUT Men

George H. Andrews has been appointed executive vice president of Benjamin Moseley Co., Inc., Needham, Mass. He formerly was sales manager of the retail division of Martin Fabrics, Inc.

Emerson M. Bullard has assumed new duties as head of the manufacturing division of Clark Thread Co. Southern mills and of North Georgia Processing Co. Mr. Bullard will make his office in Atlanta, Ga. He has been with J. & P. Coats Co. since 1932.

Edward E. Burdett has resigned as manager of Mill G of Goodall-Sanford, Inc., Sanford, Me., to accept an executive position with Worcester Textile Co., Greystone, R. I.

Henry Caldice has become night overseer of finishing at Lebanon Woolen Mills Corp., Lebanon, N. H.

J. C. Clark, superintendent of Judson Mills, Greenville, S. C., has retired. **Alfred G. New** has been named to succeed him.

W. P. Clement has been named superintendent of the rayon division of Rock Hill Printing & Finishing Co., Rock Hill, S. C. He succeeds **Richard Reynolds**, resigned.

Aubrey Cobb has been named superintendent of Marengo Mills of Vanity Fair Mills, Demopolis, Ala., succeeding **Don Hooples**. Mr. Cobb was formerly an operating engineer with headquarters at Jackson, Ala.

Preston Cook has become head of dveing at the new dyehouse of Hathaway Mfg. Co., New Bedford, Mass. **William King**, superintendent of cotton weaving, and **Edward Whalley**, superintendent of rayon weaving, have resigned.

Claude A. Crocker, director of personnel for Clinton Mills, Clinton, S. C., has joined J. P. Stevens & Co., Greensboro, N. C., and will be with Slater Mfg. Co., Slater, S. C.

Harold S. Dahlberg, of F. C. Huyck & Sons, Rensselaer, N. Y., has been elected chairman of the Hudson-Mohawk Section of the American Assn. of Textile Chemists & Colorists for 1952.

DONALD B. TANSILL has been elected executive vice president and a member of the board of M. Lowenstein & Sons, Inc., New York, N. Y. He resigned as vice president of Burlington Mills Corp. to join the Lowenstein organization. Before joining Burlington in April, 1950, he had spent 25 years with Pepperell Mfg. Co., where he was vice president in charge of sales.

W. L. Dallas has become general overseer of weaving at Waverly Mills, Inc., Laurinburg, N. C.

Joe H. Davenport has resigned as president and general manager of Davenport Hosiery Mills, Inc., Chattanooga, Tenn. **J. Tally Johnston**, vice-president, has been named to succeed Mr. Davenport. **Philip G. Forsythe**, sales manager, has been named vice president in charge of sales. **Joe H. Davenport, Jr.**, was named assistant to the president and assistant sales manager. **Rudd Hardesty** was appointed plant manager. **Jack Chivington** was appointed assistant plant manager.

Brad Dennis has resigned as chief engineer of Wyandotte Worsted Co., Pittsfield, Mass., to accept a position with New England Power Co., Leominster, Mass. **Edward Gilbert**, formerly with General Electric Co., Pittsfield, Mass., succeeds Mr. Dennis.

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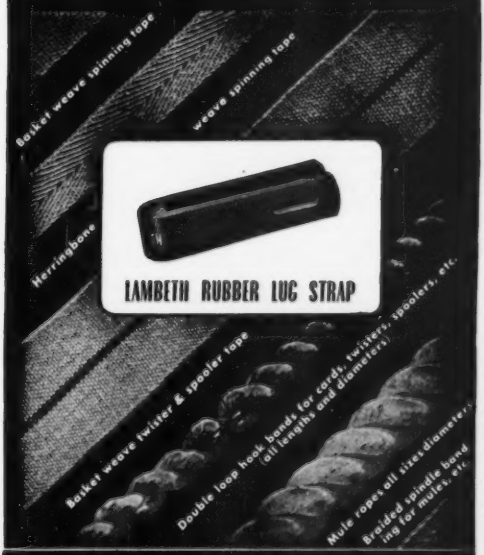
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Millions of these very special Crayons are turned out each year . . . The result of more careful research and study, they meet and better the exacting requirements of the Textile manufacturer.
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"Cut the high cost of seconds!"

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Dust and Dirt

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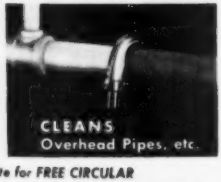

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News About **MEN** (Continued)

Harvey Eastman, superintendent of the American Thread Co. plant at Bristol, Tenn., for the past nine years, has been named manager of the company's new finishing plant now under construction at Sevier, N. C.

Robert L. Fish, formerly with Southbridge Finishing Co., Southbridge, Mass., as chief engineer, has become resident manager of Plastics Mfg. Co., Lynn, Mass., a subsidiary of William Whitman Co.

Glenn L. Gardiner, vice president of Forstmann Woolen Co., Passaic, N. J., has been selected as one of 18 economists, management, engineering, labor, and industrial-relations men and women to advise the newly formed Mutual Security Agency (successor to ECA) on European productivity for the coming year.

Jules G. Haft, former officer of Morris W. Haft Bros., Inc., has purchased controlling interest in Liberty Fabrics of New York, Inc., New York, N. Y., and has been elected president. Mr. Haft succeeds **Eugene Metzger**, former president and company founder, who will remain as production director. Mr. Haft will also serve as general sales-promotion manager. **Maurice Goodman** will continue as vice president and sales manager and **Richard Block** as vice president and treasurer.

Louis B. Heiling was elected a vice president of Adams-Millis Corp., High Point, N. C., at a recent meeting of the board of directors.

William G. Hicks has been named president and general manager of Belding-Corticelli Ltd., Montreal, Que., of which he was formerly vice president and general manager. Mr. Hicks succeeds **W. P. MacDougall**, who has been named chairman of the board. **L. B. Ramsey**, treasurer, has been named assistant general manager.

Fred Horman, second hand, has become overseer of weaving at Sawyer Mills of American Woolen Co., Dover, N. H., succeeding **A. A. Parmentier**, resigned. **Chester Condon** has become night superintendent.

Albert J. Huber, has been named director of spun-fabric development and research for Textron, Inc., Providence, R. I. Mr. Huber was formerly with the Men's Wear Div. of Burlington Mills Corp., Greensboro, N. C.

J. Tally Johnston has been elected president and general manager of Davenport Hosiery Mills, Chattanooga, Tenn., succeeding **J. H. Davenport.**

David L. Jones has resigned as assistant to the towel manager at Fieldcrest Mills, Inc., Spray, N. C., to join the Industrial Fabrics Div., Pacific Mills, Boston, Mass.

Spencer L. Jones, a member of the board of James Lees & Sons Co., Bridgeport, Pa., has been named secretary, succeeding the late **J. Ambler Williams.** Mr. Jones directs Lees's purchasing and also the company's worsted and hand-knitting yarn division purchases and sales. **Moreau D. Brown**, a partner in the banking firm of Brown Bros., Harriman & Co., was named a director.

Sol Kaye, Simon Kaye, and **William Rubenstein** were elected president, vice president, and secretary-treasurer, respectively, of Lorraine Cross Hosiery Inc., Bloomsburg, Pa., recently.

Ed B. Kirby has been promoted from assistant overseer to overseer of the cloth room at the Hillside Plant of Callaway Mills Co., LaGrange, Ga. He succeeds **H. M. Erwin**, who retired after 34 years with the company.

George B. Knowles, Jr., has succeeded his father as treasurer of Kilburn Mills, New Bedford, Mass. Mr. Knowles, Sr., retains the office of president.

Alvin Koenig has become manager of production control of Rhode Island Spinning Div., Collins & Aikman Corp., Bristol, R. I.

John A. Korschen, vice president and general manager of Chipman Knitting Mills, Easton, Pa., has retired. He has been succeeded by **John F. Michler**, a vice president of the company.

A. J. Kruse, who established the Henderson, Ky., unit of Bear Brand Hosiery Co. in 1937 and has since been super-

FRANCIS WILLEY & CO.

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TOPS
SPECIAL TOPS

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Cotton yarns, single and ply
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Spinners of Fine Woolen, Merino & Specialty Yarns
The ALDON SPINNING MILLS Corp.
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Made any size or style wanted. Center and end wheels. Water proofed and chemically resistant finish.

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Save damage to mill floors. Install loom pads fastened with tough, flexible Plasgon.
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FREE *samples of* **SHUTTLE FURS**

Manufactured from imported New Zealand, Brown and Grey Opossum Hides. We make any width and grade of shuttle fur to be used in all types of weaving. Also whole Opossum Hides and Muskrat if desired. We have whole Sheepkin hides, or cut in strips or pads. Strip fur cut to specifications and boxed in 50 foot rolls.

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News About **MEN** (Continued)

intendent, has resigned. He has been succeeded by **E. F. North.** Mr. Kruse has not announced his future plans.

Waldemar R. Kuenzel and **Gerrish H. Milliken, Jr.,** have been elected vice presidents of Deering, Milliken & Co., Inc., New York, N. Y. Mr. Kuenzel, who will be in charge of fabric development, joined the company in 1945. Mr. Milliken has been with the company since 1946 and is in charge of Orlon sales.

Royal Little has resigned as chairman of the board of Lonsdale Co., Providence, R. I., to devote his full activities to Textron, Inc., of which he is president.

John Lownes, III, has become assistant mill manager of American Silk Spinning Co., Providence, R. I.

Alex McCance, formerly general superintendent of Phoenix Hosiery Mills, Milwaukee, Wis., has been named general superintendent of Nolde & Horst Co., Reading, Pa.

Francis Manning has resigned his connection with Sawyer Mills of American Woolen Co., Dover, N. H., and has become overseer of dressing for Paragon Worsted Co., Providence, R. I.

Kenneth W. Marriner has resigned as president of Winslow Bros. & Smith Co., Boston, Mass., and will form a new wool and top-making company to be known as Marriner & Co. Associated with Mr. Marriner will be **P. Loring Reed, Jr., Lyman G. Bullard,** and **Robert H. Shield.**

William Marsden has become manager of dyeing for Plymouth Finishing Co., Fall River, Mass.

James O. Montgomery has been appointed area manager of Van Raalte Co., Inc., plants in North Tonawanda, Dunkirk, and Silver Creek, N. Y. He previously was manager of the North Tonawanda plant. **William K. Lawson,** former office manager at North Tonawanda, was named manager of the Dunkirk and Silver Creek plants.

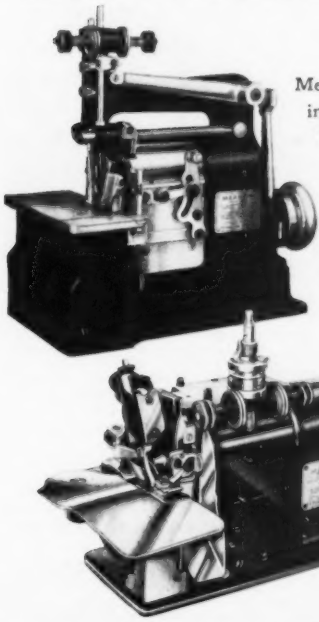
Stanley Murdock has become superintendent of the Sheeting Div., Pepperell Mfg. Co., Biddeford, Me., succeeding **Bernard F. Brady,** who has become general manager of the Biddeford division of the company.

LEO W. RAINARD has been appointed director of research for Alexander Smith, Inc., Yonkers, N. Y. He was formerly assistant director of research under A. Griffin Ashcroft, now vice president in charge of research and development, before the latter's election as an officer of the company.

Sidney S. Paine has retired from the position of vice president of Cone Mills Corp., Greensboro, N. C., but will remain on the board of directors. **Sigmund Sternberger** has retired from active work with Revolution Mill, where he was treasurer until its formal merger with Cone in 1948, but will remain on the Cone board. **Maurice Hendrick,** of Cliffside, former president of Cliffside Mills, a Cone subsidiary, and a member of the Cone board until last year, has retired from his connection with that unit. **James R. Young** has retired from the post of treasurer of Minneola Mfg. Co., Gibsonville. These veteran officials had all been with the Cone group for 25 years or more.

M. Brandon Payne has been appointed to the new position of assistant production manager of the Concord, N. C., plants of Cannon Mills Co. Mr. Payne will assist **Julian C. Harmon,** vice president and production manager. For the past several months he had been general superintendent of Plants 2, 5, 9, and 10. **D. Ray McEachern, Jr.,** has been promoted from assistant superintendent at Plant 4 to general superintendent of the Cannon plants at Concord. **Freeman Johnson** has been promoted to first assistant superintendent at

Don't overlook Overedging



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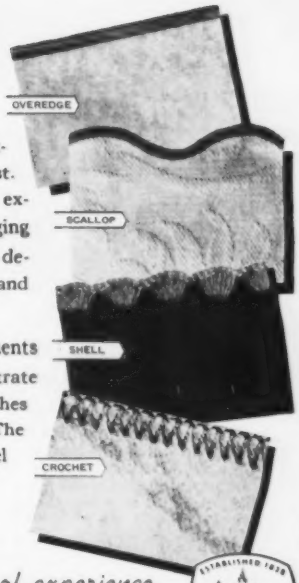

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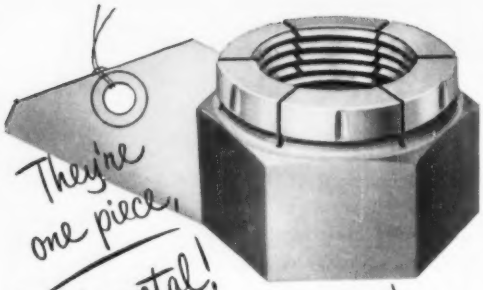

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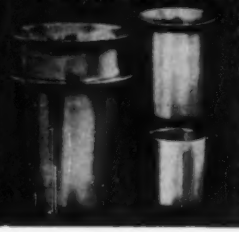

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News About **MEN**

(Continued)

Plant 4. He was formerly assistant superintendent on the second shift.

Robert G. Rashid has become director of research and development for Ripon Knitting Works, Ripon, Wis.

James M. Rennie has been named manager of engineering of Dan River Mills, Danville, Va. He had been in technical positions with Burlington Mills since 1935. **C. J. Schwem** continues in charge of the standards department and **C. E. Dorn** will have charge of plant engineering.

C. G. Riegger has been elected vice president and treasurer of Chicopee Mfg. Corp., Chicopee Falls, Mass.

W. T. Rigby has become plant manager of Keasbey Mattison Co., Plant No. 10, Meredith, N. H.

Donald Schaeffer, former general manager of Howard Hosiery Co., Sinking Spring, Pa., and Pentagon Hosiery Co., Reading, Pa., has become manager of Trimfit of California, Anaheim, Calif.

Richard E. Seifert has recently been promoted from superintendent to resident manager of Vassalboro Mills of American Woolen Co., North Vassalboro, Me.

Charles H. Silver, vice president of sales for American Woolen Co., New York, N. Y., has been named to head all sales departments. **Lowell E. Hawthorne** has been appointed general sales manager, assisting Mr. Silver. Mr. Hawthorne was formerly with J. C. Penney Co., New York.

Robert S. Small, of Greenville, S. C., has been elected vice president of Woodside Mills, Greenville, and re-elected president of Haynsworth Mills and Ottaray Textiles, Inc., both in Anderson, S. C. New officers of the Anderson mills include **H. H. Monckton**, vice president; **W. H. Monckton**, secretary; **H. B. Walker**, assistant treasurer; and **R. C. Tedards**, assistant treasurer.

Herbert J. Smith, Jr., former resident manager of the American Woolen Co. mills in Vassalboro and Fairfield, Maine, has been named resident manager of the company's Webster Mills, Webster, Mass. He succeeds **E. D. Johnston**, resigned.

BENJAMIN HELLER has been appointed vice president in charge of sales and new-fabric development for William Heller, Inc., New York. He has been associated with the company, of which his father is founder and president, for the past four years.

S. Scott Stewart has been elected vice president and general manager of Rose Mills, Inc., Philadelphia, Pa. He was formerly with Florence Thread Co., Riverside, N. J.

J. M. Stowe has retired as superintendent of National Yarn Mills, Inc., Belmont, N. C. Mr. Stowe has been in the textile field for 50 years.

Charles Truer has become overseer of finishing at Paragon Worsted Co., Providence, R. I.

Gordon E. Walls is now assistant to **William G. Casey**, manager, at Gay Bros. Co., Cavendish, Vt., which was recently taken over by F. C. Huyck & Sons. Mr. Walls was formerly with Sawyer Mill of American Woolen Co., Dover, N. H.

James Webb, president of the Eno Cotton Mills, Hillsboro, N. C., will assume the duties of operation of the Tarbardrey plant of Cone Mills Corp. at Haw River in addition to his present duties.

Eugene S. Willey has become overseer of spinning at Harris Mill of Interlaken Mills, Harris, R. I.

H. C. Woodall, Jr., has been named superintendent of **Galax** Weaving Plant, Burlington Mills Corp., Galax, Va.

STEAM

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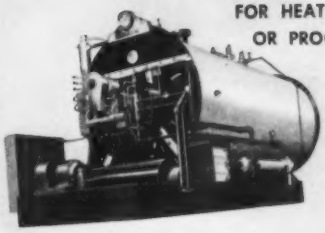

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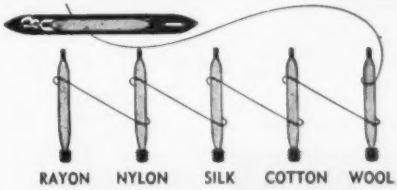

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OBITUARY

Chester S. Allen, 70, who was president of Lockwood Greene Engineers, Inc., New York, N. Y., for four years before his retirement in 1950. He joined the firm in 1910.

Ivor Booth, 41, superintendent of worsted manufacturing at Illona Worsted Mills, Inc., Millville, Mass.

Thomas P. Burge, assistant superintendent of the Lewiston Div., Pepperell Mfg. Co., Lewiston, Me.

Meyer Cohen, president of Meco Knitting Mills, Inc., Brooklyn, N. Y.

J. Roy Fant, 66, assistant treasurer of Monarch Mills, Union, S. C.

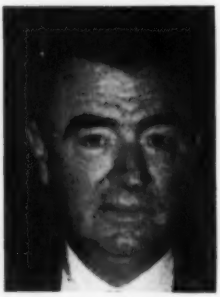
Louis C. Finley, 62, superintendent of the Safie Mfg. Co., Inc., Rockingham, N. C.

Raymond C. Gaugler, 59, president of American Cyanamid Co., New York, N. Y. He joined Cyanamid in 1917 and had been its president since January 5, 1951.

Charles L. Grey, 83, vice president and treasurer of Grey Hosiery Mills, Inc., Hendersonville, N. C.

Horace C. Harding, 72, president of H. C. Harding, Inc., Philadelphia, Pa.

EARL G. CONSTANTINE, 66, president of the National Assn. of Hosiery Manufacturers, died recently in New York. Mr. Constantine, who was widely known as a spokesman for the hosiery industry, was made managing director of NAHM in 1932 and had been its president since 1938. He was executive director of the Hosiery Code Authority of the NRA from 1933 to 1935.



FALLS L. THOMASON, 55, Southern manager of New York & New Jersey Lubricant Co., died suddenly at his home in Charlotte, N. C. Mr. Thomason, one of the best known and most popular textile-mill suppliers in the South, was recognized as an authority on textile-machine lubrication. He was a member of the Cotton Manufacturers Assn. and past chairman of the Southern Div. of the Southern Textile Assn.

Ethelbert P. Hebert, president and treasurer of E. P. Hebert Knitting Mills, Inc.; Blackstone Dye Works, Inc.; and Blackstone Wool Combing Co., Woonsocket, R. I.

Augustus Newberry James, 76, owner of Kindley Cotton Mills, Mount Pleasant, N. C., and of James Knitting Mills, Inc., Hickory, N. C.

Brig. Gen. Allen R. Kimball (USA, Ret.), 65, personnel manager of Mohawk Carpet Mills, Inc., Amsterdam, N. Y.

Frank E. Richmond, 74, chairman of the board of Crompton Co., which operates Crompton-Shenandoah Co., Waynesboro, Va., and the Crompton-Highland Mills, Inc., Griffin, Ga.

James Henry Smith, 56, overseer of spinning at Gold-Tex Fabrics Corp., Rock Hill, S. C.

David Stromberg, 57, senior partner in Laurel Mills, Brooklyn, N. Y.

Jefferson Davis (Jack) Talbert, 56, assistant treasurer of the USEO Div., Callaway Mills Co., LaGrange, Ga.

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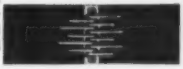

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New Dye Technique Shows Maturity of Cotton (July, '47)
Let's Knot—and Do It the Right Way (June, '46)
Ramie—an Impartial Report (Dec. '45)

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EXPERTLY RE-WOUND AT A REAL SAVING

SOLD IN GOOD USED CONDITION

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LAKE ORION, MICH.

MILLER MACHINERY CO.
66 RAILROAD AVE. PATERSON, N. J.
Tel. Sh 2-5467-8

JOHNSON 66"
7-DRUM SLASHER

Warpers • Winders • Quillers
Looms

FOR SALE

Universal #50, #90 Winders rebuilt to your specifications
5 Ruf Balling Machines
1 Landfear Spool Printer
1 Emerson Yarn Conditioning Oven
2 Chelmsford Balling Machines
1 Scott Model DH-2 Strength Tester

WANTED
Universal #44 Roto-Coners

GAINES TEXTILE MACHINERY CO. INC.
141-45 West 17th St. New York 11, N. Y.

FOR SALE

16—H. & B. 45" CARDS, 12 Coilers.
4—Deliveries WHITIN BI-COIL DRAWING.
200—Draper 44" XK Looms.
2—B-C, Model LC Tying-in Machines.
3—Universal #44 Roto-Coners, 120 sp. ea.
1—Scott Model X Tester, 25-50 lb.

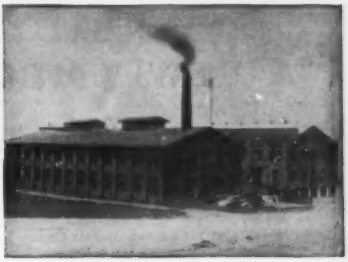
J. H. WINDLE & COMPANY
H. C. MOTLEY, President
231 South Main St. Providence 3, R. I.
Telephone GAspee 1-6464

Employment Advertising—pages 346 & 347

Executive Offices and New York Warehouse

McDOWELL ASSOCIATES INC.

FOR SALE



Hudson, New York Warehouse

PARTIAL LIST---IMMEDIATE DELIVERY

WOOLEN AND WORSTED

17 Sturtevant Waste End BLOWERS, Ducting and Motors.

1 P. & W. STEAM BRUSH, 2 Cyl., 66".

6 Whitin Iron 3 Cyl. WOOL CARDS, 60"x 60", Peraltas, Tape Condensers, 120 ends.

2 C. & M. CHINCHILLA MACHINES, 80" Platens, etc.

2 D. & F. TAPE CONDENSERS, 60", 96 ends.

1 P. & W. SEMI-DECATUR, 72" x 36" Pump, Blanket, etc.

1 C. & M. DEWING MACHINE, 60", Brass Discs.

18 Whitin 48" Center Draw Band FEEDS, J1 Conveyors.

2 Hunter GARNETTS, 3 Cyl. Units, 30"x60". Double Compartment.

1 Whitin CARD FEEDER, 60", Model EL.

2 Hunter GARNETTS, 3 Cyl. Units, 30"x60".

10 C. & K. W3 LOOMS, 82", Auto., Bejur Lubricators.

48 C. & K. W3 LOOMS, 82", Auto.

40 C. & K. LOOMS, 82", Auto.

1 P. & W. MEASURING MACHINE, AWC Model, 66".

4 J. & B. MULES, GP, 312 spdls. ea., 2½" ga., 13½" Bobbin.

5 J. & B. MULES, 360 spdls. ea., 2½" ga., 8¾" Bobbin.

1 D. & F. Iron Fearnaught PICKER, 48".

1 D. & F. Mixing PICKER, 40".

5 Kitson RAG PICKERS, 18" x 38".

1 Voelker STEAM PRESS, 86".

3 D. & F. DRESSING REELS, Pinless, 105", Beamer, Compressor, etc.

1 Sargent SCOURING UNIT, Raw Stock, 3 bowl, 36", with Dryer.

2 Hunter SCOURING UNITS, Raw Stock, 6 bowl, 48", with Dryers.

1 C. & M. SHEAR—Hi-Speed—66½" B.B. Single Cutter.

1 P. & W. SHEAR, Model "A", Double Blade, 66½".

1 P. & W. SHEAR, 4 Blade, 66½".

1 P. & S. SHREDDER, 60" x 30" dia. Cyl., B.B.

1 Sargent Pneumatic STOCK SQUEEZE SET, 2 rolls, 60".

1 R. & L. SOAPER, 42" wide, with 2 Sets S.S. Squeeze Rolls.

4 Whitin SPINNING FRAMES, Model "A", 100 spdls. ea., 4" ga.

2 Whitin SPINNING FRAMES, Model "E", 120 spdls. ea., 6½" ga.

3 Foster 102 Model CONE WINDERS, 80-100 spdl. Units.

COTTON

1 S. L. BALE BREAKER, Extended Apron.

1 S. L. LATTICE CLEANER #12, 4 Blade Beater.

2 S. L. Vertical OPENERS.

1 S. L. Horizontal CLEANER, B.B.

2 S. L. Breaker LAPPERS, 45".

2 S. L. Finisher LAPPERS, 45", P. & D. Eveners.

25 Whitin COTTON CARDS, 45", 27" Doffers, 12" Coilers.

1 Dronsfield Flat CARD GRINDER.

1 Toledo Lap SCALE, 100 lb. cap.

6 Whitin DRAWING FRAMES, 6 del. ea.

2 Whitin DRAWING FRAMES, 4 del. ea.

3 Woonsocket SLUBBERS, 72 spdls., 11x5½.

8 Woonsocket INTERMEDIATES, 124 spdls. ea., 9x4½.

2 Woonsocket INTERMEDIATES, 160 spdls. ea., 8x4.

10 Woonsocket SPEEDER FRAMES, 176-184 spdls., 7½x3½.

8 Whitin SPINNING FRAMES, 204 spdls. ea., 3" ga.

9 Whitin SPINNING FRAMES, 216 spdls. ea., 3" ga.

17 Whitin SPINNING FRAMES, 240 spdls. ea., 3" ga.

1 S. L. SPOOLER, 5" ga.

1 S. L. TWISTER (Wet), 200 spdls., 3½" ga.

1 Foster MODEL 12 WINDER, 60 spdls., Combination Tubes and Cones.

DYEING AND FINISHING

1 C. & M. Vertical BRUSH, 2 Roll, 57".

1 Van Vlaanderen BUTTON BREAKER, 50".

1 Granger CALENDER, 6 roll, 54".

1 Hinnekins CALENDER, Hydr., 3 Roll, 60".

1 Textile CALENDER, Embossing, 72".

2 Windle DOUBLERS AND WINDERS, 60"-66".

1 Set of 33 DRY CANS, 102".

1 Set of 28 DRY CANS, 120".

1 Philadelphia LOOP DRYER, Revolving Stick, 84".

1 Hunter RAW STOCK DRYER, 72".

1 R. & L. DYE KETTLE, S.S., Enclosed, 12 String.

1 Obermaier PACKAGE DYEING UNIT, C.I., 125 lb.

1 S.-D. SKEIN DYEING MACHINE, Pegg Pulsating Type.

1 Hussong SKEIN DYEING MACHINE, 350 lb. cap.

1 Troy HYDRO-EXTRACTOR, 50" Monel Basket.

1 Hacking FOLDER, 78", ½—1 1/8 Yd. Folds.

1 Hunter FULLING MILL, #26B.

1 Roy NAPPER GRINDER, 90".

1 Textile MANGLE, 2 Roll, 51".

1 Textile MERCERIZING TANK, 4 Compartment, 50".

2 Gessner NAPPERS, 18 Roll, 66"—80".

2 D. & F. NAPPERS, 24 Roll, 86"—90".

1 McCreery NAPPER, Knit Goods, 16 Roll, 66".

1 Van Vlaanderen PADDER, 2 Roll, 50".

2 Van Vlaanderen QUETCHES, 2 Roll, 50"—65".

1 C. & M. SHEAR, Carpet, Cross Cut.

1 P. & W. SHEAR, 4 Blade, 60".

2 C. & M. SHEARS, Single Blade, 66".

1 Johnson SLASHER, 5 Drum, S.S. Cans, 52".

1 Cocker SLASHER, 9 Drum, S.S. Cans, 82".

1 Lowell Hot Air SLASHER, to take 84" Beams.

1 Textile SQUEEZE SET, 3 Roll, 75".

1 SQUEEZE SET, 3 Roll, 64".

2 TEASEL GIGS, 70", Mtrzd.

1 Butterworth Clamp TENTER FRAME, 50" x 54".

1 Butterworth OPEN SOAPER, 50".

1 Butterworth Greige WASHER, 72" wide, with 17 S.S. Cans, 132".

McDOWELL ASSOCIATES, Inc.

2568 Park Avenue — Bronx 51, New York

Tel.: MElrose 5-6741

MACHINERY LIQUIDATING COMPANY

A FEW ⟨MLC⟩ OUTSTANDING VALUES

LOOMS

200—48", 52", 54", 56" R.S. C&K Plain Silk Looms, 20 h., motor driven
60—51½" R.S. Draper Model E Rayon Looms, 16 harness
98—52" R.S. Draper Mod. D Dobby Looms
20—52" R.S. C&K 2x1 Plain Looms, Gem heads, motor driven
30—54" R.S. C&K 4x1 Plain Looms, dobbies, motor driven
10—56" C&K 2x1 S-3 Auto. Shuttle Change Looms, 25 harness
24—72" R.S. Draper Mod. D 2x1 Looms, with jacquards
8—72", 84" R.S. C&K 4x4 Box Looms with jacquards
30—72", 82" C&K 4x4 Box Looms, motor driven
60—79½", 82" Draper Mod. D Looms, 20 harness, motor driven
100—82", 92" C&K 4x1 Auto., 25 harness Looms, motor driven
8—100" C&K 2x1 Auto. Looms, 25 harness
4—Paul Muller Label Looms, 1938-44, with C&K Jacquards
2—65" Simpson type Winders
1—50" Silk Calender
1—67½" Yale Semi-Decater, 36" dia. cylinder
3—66" & 72" P&W Doubling Mfg. & Winding Mchs.
1—82" P&S Rev. Stick Loop Dryer

1—100 arm Buhlman Skein Dyeing Machine
1—50" Continuous Vat Dyeing Machine, complete
1—80" Hunter stainless steel lined Dyeing Machine
2—60" Hunter 1941, 8-cylinder double doffer Garnetts, complete, with running-out aprons, compression rolls, batt folders, slitters, P&S cone willow
1—60" James Smith 3 cyl. Garnett
1—30" Sample Piece Dye Kettle S. S. lined
2—Kiers; 8x14' and 9x13'; pumps & motors
2—360 sq. J&B 3" gauge Mules, Brand New
1—78" Borchers 14R Dbl. Acting Knapper
5—45"—50" 2 and 3 roll Padders
1—66" V. VI. Palmer complete with Quetch
4—52"—92" Gessner Cloth Presses
1—40" C & M Fearnaught Picker
1—40" James Smith Mixing Picker
1—60" R.B.&F. 4-color Print Machine, will accommodate print rolls 30" circumference
1—72" Birch Bros. 4-burner Singer (like new)
1—60" James Smith 2 cyl. Shoddy Card
1—70'x148" Textile Pin Tenter, carbomatic gas burners.
1—104 sp. Draper 4½" ring, Twister, motor driven
1—100 sp. Universal Model 40 Whirlwind Cone Winder

WANTED—GOOD SURPLUS TEXTILE MACHINERY OF ALL TYPES

MACHINERY LIQUIDATING COMPANY

A Dealer of Recognized Reliability—Domestic & Export

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WAREHOUSE—Hawthorne, N. J., 4th Ave. Phone: Hawthorne 7-4380

SPECIALISTS IN SELLING AND PURCHASING TEXTILE MACHINERY, ACCESSORIES AND MILL SUPPLIES

USED EQUIPMENT—AVAILABLE IMMEDIATELY

SPINNING

2 WORSTER CARDS Item H-WC
2 Cylinder—Davis & Furber
54" Diameter x 54" Face
With Bramwell Picker Feed
Balling Head Delivery

8 NOBLE COMBS Item H-WCCK
C & K—Rebuilt by James Smith
Pinning 45-49—12 x 36 coilers
Veeder root clocks—65" rack—S-Bars

WHITIN TAPE CONDENSOR Item 9841
Model "C"—Serial #425000 series
46" Apron—48 Ends—Year 1942

1 DERBY DOUBLER or SLIVER LAP MACHINE Item N-H
Saco-Lowell—Year 1944
Making 20" lap
Serial #170—Model #37

2 SARGENT BAGGING MACHINES Item KA992
For Nolls, Tops, or Raw Stock
Equipped with 1 HP motors

WINDING

2 FOSTER WINDERS Item 512K
Model 102—7" Traverse
100 Spindles for Tube Winding. Takes wood bobbins 8" x 11½". 50 spindles & one motor each side. Equipped with steel bobbin bins at side and chain conveyor for removal of empty bobbins.

10 BALL WARPERS Item E-13046
Making standard 30" ball warp with 500 end single creel for 6" cones. Equipped with disk tensions, eelctric drop motion, yardage counter, and tension stand.

WHITIN QUILLER—MODEL J Item L-WQ
304 Spindle
3½" Gauge—10½" Traverse

1800 USED JACK SPOOLS Item K-JS
32" with 10" heads

2 YARN WARP COILERS Item 12166
Ceiling Type

DYEING & SCOURING

CENTRIFUGE or VACUUM EXTRACTOR Item RB
Stainless Steel Throughout
60" Basket—High & Low Speed
Motors & Controls for reversing cycle

HYDRO-EXTRACTOR or WHIZZER Item K-HE
W. H. Tolhurst & Son
42" Lead-lined Copper Basket

DYE TANK & METAL HOOD Item-12587
500 gallon stainless steel lined round tank. Wood outside—3' high 50" in diameter with steam coil and lid.

25 SECTION BEAMS—ALLEN Item 12817
60" between flanges
32" diameter wood flange—steel bound
12" diameter wood barrel (never used)

MACBETH COLOR MATCHING LAMPS Item 6566

FINISHING

BOILOUT MACHINE—72" Wide Item 9866

COATING MACHINE Item 12418
72" Width Cloth Roll—Chain Drive

CURTISS & MARBLE STEAM PRESS Item 12990
Serial #382—66" Working width
Chain Drive but without Motor

2 EMBOSSING MACHINES Item 1244
Cavagnaro—60"—3 Roll

1 C & A BEATER Item B-CAB
3 cylinder—With steel box
66" wide—all steel—4 blade

MISCELLANEOUS

3 THOMAS HALTON JACQUARD HEADS Item B-HJ
600 Hook—Double 300—3 position
9" lift—Would include Crank Lever Stand, and Side Pump Lever.
But No Lingoes or Harness

250 RED FIBER CASES Item 12610
35" long x 17" wide x 32" high
These cases are well constructed with 4 runners on the bottom and inside metal handles at the top. All corners and top are reinforced metal with 1¼" strap iron.

60 STEEL LOCKERS Item E-L
20 sections of 3 lockers each
6' high x 15" wide x 12" deep

Collins & Aikman Corp.

Sales & Salvage Department

6th & Upland Aves. Upland, Delaware County, Pa.

Phone—Chester 3-4187

TEXTILE MEN OF EXPERIENCE SAY-

"TODAY IT'S "T·A·"!

THE HOME OF THE "BULLDOG" EXPANDER

IT'S "TA" FOR

RECONDITIONED FINISHING MACHINERY

We specialize in thoroughly and accurately reconditioned finishing machinery.

IT'S "TA" FOR SPEEDY

DELIVERIES

instead of promises—when you buy equipment from "TA." Today production won't wait—and you can't afford to wait for new machines when "TA" may have what you want now IN STOCK.

IT'S "TA" FOR QUICK

LIQUIDATION

where liquidation will be best. Our standing in the field and our wide experience means that you realize the *most* from a "TA' liquidation, in the fastest possible time. Consultation without obligation. Write or wire us and our man will call.

IT'S "TA" FOR READY

CASH & TOP VALUE

for your idle equipment, or for equipment you may want to replace. We take *resale* problems off your hands and quickly convert your "liabilities" into "assets" where at all possible.

COUNT ON TEXTILE AUXILIARIES

to help you solve today's problems

- **READY FOR DELIVERY**
- **NO DELAY—WITH "T-A"**

BLEACH HOUSE EQUIPMENT
Squeezers, screw and lever set with 18" x 18" and 14" x 14" rubber rolls
Scutchers, 50" wide—60" and 76" wide
Reels, all widths; also Pot Eyes, Scroll Expansion Pulleys, all sizes
3—Perkins Bin Pilers; also, 2—#2 Nash Vacuum Pumps
WASHER (open), 74" wide, 8 compartment, steel boxes, brass immersion rolls, rubber nips 74' wide, with a set of 42 steel tinned Cans, 74" wide, in excellent condition, roller bearings, siphons and Johnson joints
VAT AGER, specially constructed for screen printers, 74" wide, all stainless steel box and stainless steel rolls (brand new)
CEILING FOLDERS
Box or roller type, from 50" to 120" wide
HOOKERS AND DOUBLERS
From 40" to 60" wide
TENTER FRAMES
1—30' x 60" Textile Finishing Machinery Co., straightaway, with W. & J. Weft straightener, and 2/5 top opening stainless steel insert and plate chain, excellent condition
1—Butterworth, 90' x 74" wide straightaway, synchronized with a set of 42—74" steel tinned, practically new, dry cans, vertical stacks, Johnson joints, with siphons and ball bearings, connected to 8 box 74" open soaper, can be purchased individually or as a complete unit
1—90' Butterworth Swing Tenter, 54 wide, with top opening stainless steel inserts and plates chain, good condition
Also, spare Morrison and Textile Rails

TYPICAL "T-A" STOCK ITEMS

TENTER FRAME CHAINS
Spare Chains for 20' to 90' frames, brass and stainless steel inserts and plates, top and side opening; also mercerizing chains manufactured by Wilnor & Jerauld, Butterworth, etc.
PADDERS or STARCH MANGLES and QUETCHES
2 and 3 roll, with rubber or brass rolls, from 36" to 140" wide, with screw and lever set, or pneumatic set
BATCHERS or WINDERS
Single and double drum, from 42" to 76" wide
REEVES and LEWELLEN DRIVES
From 000 to size 4, open and enclosed
DRY CANS
Sets from 6 up to 45, all widths, from 40" to 106" wide, vertical or horizontal frames; also 4', 5' and 7' cans up to 57½" wide, copper or copper tinned
PRINT MACHINE and SPARE PARTS
From single color to 12 colors, from 40" face to 65", spare mandrels, color pans, gears, etc.
1—2 color, 27" wide Sample Print Machine
1—60" Hope Pantograph 100% reconditioned. Complete with all diamonds
DYE JIGGS
Wooden, stainless steel and stainless steel lined, from 48" to 65", also spare beams
1—Continuous or progressive Dye Jigg, 46" wide, 8 beams
4—New tensionless, all stainless steel, 74", with temperature controls and automatic set
2—Van Vlaanderen, 50", stainless steel, latest type, tensionless
CALENDERS
1—Van Vlaanderen 3 roll, 45", rayon
1—25 ton, 42", hydraulic, 3 roll.
1—Textile Finishing Machinery Co. 60" Embossing, "Levant Grain Design," bottom roll blue felt 24" dia., top roll steel steam heated 12" dia., herringbone gears, motorized 25 h.p., 550 volt, 3 phase, 60 cycles, complete unit
1—Textile Finishing Machinery Co. 50", 5 bowl plain rolling, 3 husk and cotton combination rolls, 1 chilled iron roll, 1 steel steam heated roll, with let-off and take-up
1—Butterworth 3 roll plain, 46" wide, can be converted to "Friction," 1 cold chilled iron roll, 1 husk, 1 steel steam heated roll, ready to run
1—Weisbach 11 roll chasing, hydraulic, 100 ton pressure, 50" face, consisting of 6—50" cotton rolls, 5—50" steel rolls, with chasing arrangement; this machine can be cut down and can be made into a 5, 6 or 7 roll calender
1—2 bowl Morrison embossing, 54" wide, like new
Also in Stock—**Spare** Calender Rolls, all widths
MOTORS
2—75 h.p., 220 volt, B.T.A., latest series, with motor base, resisting grids and all controls
1—5 h.p. and 1—7½ h.p. B.T.A. 550 volt
Also, 1—h.p. to 100 h.p. motors, A.C. and D.C. voltage, all speeds
SPARE HIGH PRESSURE STEAM STEEL CANS
In 57½" face x 15", 24", 36" and 60" diameter

OFFICE AND WAREHOUSE
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TEXTILE
146 WEST RIVER

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DESIGNING • LIQUIDATING
UXILIARIES
STREET **PROVIDENCE, R. I.**

50 No. 50 UNIVERSAL CONERS

Gear gain, anti-wear tensions, 3°30 cone tapir, motorized, excellent condition

100 Atwood Twisters

8 oz. package, motorized, 2 motors per machine, 200 spindles per machine. Bobbin equipment with machines.

2 JOHNSON SLASHERS

7 cans—52" complete with brown instrument panels.

6 Large Package 5-B ATWOOD DOUBLERS

12 oz. package, 6" spacing, 84 spindles, 3⅜" Eadie rings.

100 Draper XD 64" Looms

Motorized—complete with beams, bobbins, drop wires, harnesses, etc.

10 Standard 15'8" Fletcher NARROW FABRIC LOOMS

Set up with 44" broad beams, ¾" H.P. Rockwood drives and cam motions.

1 LYDON cake or skein DRYER

1950—4 section—complete with instruments, dry poles and trucks.

PHONE 3-7497 — *Wm. Rabinowitz & Sons* — PHONE 3-7498

214-222 HAMILTON STREET · ALLENTOWN, PA.

IF IT'S HONESTLY REBUILT TEXTILE MACHINES YOU WANT—*I've been at it 20 years*

SIGNED *A. Golz* EASTERN TEXTILE CO.

CHECK THIS LIST

IF WHAT YOU WANT IS NOT HERE CONTACT ME AT ONCE FOR RESULTS

22—copper dry can machine 23" dia. x 54" face roller bearings, siphon system gear driven.

6—copper slasher cans 4—7' and 2—5' horizontal machine bucket type 60" face—this machine in operation and can be inspected.

Stainless steel cans made to your specification any width.

Any width new copper dry can made with or without frames.

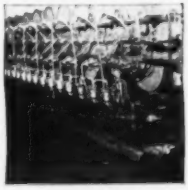
8—copper dry cans 23"x40" face with bucket or siphon type, gear sprocket driven.

8—copper dry cans 23" dia. x 50" face made to your specifications water cooling cans made to order.

15—new copper dry cans 23" dia. 144" face with or without frames bucket or siphon type.

We can give you quick delivery—one dry can or a complete machine.

All our work guaranteed to your satisfaction.



20 YEARS EXPERIENCE BUILDING TEXTILE MACHINERY

Eastern TEXTILE COMPANY

New and Used Finishing Machinery Specializing in Dry Can Machinery

296 LINCOLN AVENUE FALL RIVER, MASS.

WRITE PHONE WIRE ● Telephone 33228

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Est. 1922 **McKITTRICK CO.** Inc. 1935

OFFERS OUTSTANDING QUALIFICATIONS AND SERVICES

McKittrick is permanently in the textile machinery business with the THIRD generation now training. The McKittricks have the experience and the educational background.

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TREASURER

Raymond W. McKittrick. Age 45. Graduate Engineer, Lowell Textile Institute.

SALESMAN

Vernon R. McKittrick. Age 31. Graduate Engineer, Lowell Textile Institute.

SECRETARY

Carl F. McKittrick. Age 38. Graduate Accountant, Bryant College.

EXECUTIVE TRAINEE

Robert A. McKittrick. Age 24. Graduate, Business Administration Engineering, Massachusetts Institute of Technology.

McKITTRICK CO. OFFERS A VARIETY OF SERVICES INCLUDING

1—OUTRIGHT PURCHASE—for cash—anything from a bobbin to your complete plant.

2—LIQUIDATION SERVICES—at private sale of anything from a bobbin to complete plants.

3—APPRAISAL SERVICES—for insurance purposes, tax cases, quick sale, orderly liquidation, estate settlements, auction estimates, or any other purpose,—*"specialists in woolen and worsted"*.

4—PURCHASING SERVICE for your account at auctions on a commission basis.

5—INSPECTION SERVICE of machinery offered to you by others.

6—WAREHOUSES — maintained for your convenience in Lowell and Fitchburg, Mass.

7—RIGGING and SHIPPING SERVICE — On all items in warehouses or purchased through us. This means you have to deal with only one account. McKittrick Co. operate their own fleet of trucks.

8—EXPORT PACKING and SHIPPING Service—special crating room and loading dock at Lowell.

9—GUARANTEE: All descriptions and representations by McKittrick Co. are backed by their knowledge, integrity and financial responsibility.

10—WORSTED spare parts department for Bradford type machinery.

11—WORSTED TOP ROLL COVERING—also roll covers and roll covering supplies.

12—MILL SUPPLIES.

13—MILL HARDWARE DIVISION (operating McKittrick Hardware Co. and J. C. Bennett Hardware Co.)

14—ELECTRICAL—a complete Industrial Electrical Engineering and Equipment Service through White Electric Motors in Lowell (owned by McKittrick's).

15—SPECIALISTS—If it is used in a woolen or worsted mill, we handle it.

16—COTTON—RAYON—JUTE MACHINERY. Besides specializing in woolen and worsted, McKittrick handles these and other types of textile machinery and equipment.

17—COMMISSION WOOL SPINNING. 8-set mill in Fitchburg, Mass.

18—COMMISSION WORSTED SPINNING—BRADFORD RING SPINNING. Noble Combing. Fitchburg, Mass.

19—REFERENCES: Financial: Union National Bank of Lowell, Lowell, Mass.

FRANK G. W. McKITTRICK CO.

Est. 1922 — 78 FLETCHER STREET, LOWELL, MASSACHUSETTS — Inc. 1935

MACHINERY SUPPLIES EQUIPMENT REAL ESTATE

NEW AND USED TEXTILE MACHINERY BOUGHT AND SOLD

HERE IS A PARTIAL LISTING OF SOME OF THE FINE EQUIPMENT THAT WE HAVE IN STOCK.

152—C & K, 2 x 1, S-3 automatic shuttle changing motorized looms, weave 50" and 52" cloth. Complete.
112—C & K, 2 x 1, S-5 automatic bobbin changing motorized looms, weave 52" cloth. Complete.
24—C & K, S-6 2 x 1, 58" motorized automatic bobbin changing looms. New.
32—C & K, 2 x 1, automatic bobbin changing looms, weave 50" cloth complete. Motorized.
22—C & K, 4 x 4, 48" Intermediate gem head motorized looms complete weave 64" cloth.
18—C & K, 4 x 4, 72" intermediate gem head motorized looms weave 68" cloth.
76—Atwood (Monarch type) 184 spindle double deck spinners, motorized.
70—Draper Model C automatic shuttle changing looms, motorized, weave 46" cloth.
3—Johnson 5 can 60" slasher complete, silk system.
2—Van Vlaanderen 5 can 60" Slashers, silk system, complete.
2—Cocker 60" 5 can slashers, cotton system, complete.
1—Johnson 60" 5 can Slasher complete, cotton system.
1—2 cylinder 20" x 80" Smith & Furbish Garnett machine, equipped with speed reducer, excellent condition.
Complete line of Universal #90 Quill Winders, #50 Cone Winders.
Large assortment, stainless steel, steam jacketed kettles, 40, 60, 80 and 100 gallon capacity complete with lids, stands, safety and drain valves.
New looms parts and supplies, harness frames, heddles, bobbins, etc.
48—S 6 Loom C & K 56 inch 2 x 1 inch 2 x 1 automatic bobbin changing motorized loom, complete, practically new.
96—S 5 loom C & K 56 inch 2 x 1 automatic bobbin changing motorized loom, complete.
100—Draper 62 inch X. D. automatic bobbin changing motorized loom, complete. Practically new.
24—X. D. 2 x 1 50 inch automatic bobbin changing loom, complete. Practically new.
24—X K. 44 in. automatic bobbin changing motorized loom complete. Excellent condition.
2—Johnson 7 can stainless steel 30 x 60 cotton system slasher 12 beam racks complete. Practically new.
120—Spindle Whitin-Schweiter automatic quill winder, late type.
1—Sip high speed warper and cone creel, cotton system. Practically new.
Warper 54½ inch creel 1008 ends—
Also other cone creels and Warper available.

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WOOLEN AND WORSTED MACHINERY
FOR SALE
BY
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532 Kinsley Avenue — P. O. Box 276 — Providence, Rhode Island U. S. A.
Telephones: Gaspee 1-4041 and 1-4042 — Cable Address "Dunco"

PICKERS

1—Sargent multiplex burr picker with C & M picks, feeder arranged for M.D. equipped with blower, picker, etc.
1—D & F 48" Fearnaught mixing picker M.D. with automatic feed.

CARDS & ACCESSORIES

4—Sets 48" wide 60" diameter D & F cards with tape condensers all iron equipped with center draw feeds, metallic cylinder, M.D.
2—60" Duesberg Bossom peraltas
2—48" Duesberg Bossom peraltas
2—D & F 60" tape condensers equipped with 36" doffers.
4—60" wide by 36" diameter doffers.
3—Humidifier units used approximately 6 months, Model B-3 Air-Perme-Ator units (complete specifications on request).

LOOMS

16—82" C & K W-3 4 x 1 automatic looms, M.D. 7—1945, 9—1947, 48
6—C & K 92" wide 4 x 1 automatic looms M. D. stop motions, beam and 1/2 per loom.

FINISHING

1—James Hunter single section rotary dryer, Year—1937, 50" to 66" wide, adjustable widths, Blake electric guides, Taylor temperature controls M.S. with Reeves drive on dryer, 2 new Finn type coils to go with this dryer.

1—P & S CLOTH carbonizing unit completely rebuilt in 1945. All steam coils, complete specifications on production of civilian and army cloths furnished on request.

2—Birch Brothers mill end sewing machines carbonizing head 1/4 H.P. 110V.

40—60" long fluorescent light fixtures. 2 tubes each bulb 100W.

24—48" long each bulb 40W.

1—Niagara twist-setter yarn conditioner, Model #X, Serial #67. Almost new, complete specifications on request.

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BAY STATE

BUY BAY STATE

FROM A BOBBIN TO A COMPLETE MILL

• *Partial Machinery List* •

14—40" H&B Revolving Flat Cards, 28" Doffers, 12" Coilers.
11—40" Mason Revolving Flat Cards, 27" Doffers, 12" Coilers.
19—45" Whitin Revolving Flat Cards, 27" Doffers, 12" Coilers.
22—40" Dobson & Barlow Revolving Flat Cards, 24" Doffers.
3—45" Whitin Single Process Pickers, motor driven, 1933.
1—40" H & B Single Process Picker with Blending Reserve.
68—Deliveries Whitin Mod. F. Drawing, Metallic Rolls, 12" Coilers.
40—Deliveries Medley Drawing Frames, 4 & 6 delv. motor driven, 1947/48.
6—Model H Whitin Combers, 12" Coilers, motor driven.
4—Tunstall Combers, 1933 model, belt driven.
40—Naismith Combers, standard Lap, 6 heads, 12" Coilers.
2—10x5 Saco-Lowell Roving Frames, Whitin Interdraft, 96 spd. 8" ga.
11—8x4 Saco-Lowell Speeders, J-3 draft, 144 spd. 6" ga.
46—Whitin 3½" gauge Spinning Frames, 252 spd., band drive, Conv. draft.
24—Whitin 3¼" gauge Spinning Frames, 252 spd., tape drive, Conv. draft.
16—Whitin 3½" gauge Spinning Frames, 228 spd., tape drive, Whitin Long Draft.
7—Saco-Lowell 3½" gauge Spin. Frames, 240 spd., tape drive, Whitin Long Draft.
5—Saco-Lowell 3¼" gauge Spin. Frames, 204 spd., tape drive, Roth Long Draft.
35—Fales & Jenks 2¾" ga. Frames, 224 spd., tape drive, Conv. draft.
4—Whitin Model B Twister Frames, 3½" ring, 4½" ga., 160 spd., tape drive.
58—Whitin Model C Twisters 3½" ring, 5" ga., 184 spd. tape drive, 1943.
9—Atwood Model #110 Double Deck Twisters, 1 lb. pkg., 208 spd., 6" space.
3—Foster #101 Winders, 100 spd., motor driven, paper cones.
2—60" Cohoes 5' & 7' Cylinder Slashers, 8 beam creels, all controls.
1—80" Cocker High Speed Slasher, 9 cylinders, stainless steel, Brown controls.
78—56" Draper Mod. XK Looms, motor driven, 24" dia. beam heads.
98—50" Draper Model XK Looms, motor driven, 24" dia. beam heads.
175—40" Draper Model E Looms, belt driven, 20" dia. beam heads.
250—40" Crompton & Knowles Cotton King Looms 4x1 box, motor driven, 1941.
40—72" Draper Model L Looms, motor driven, 82" r.s., some dobby heads.
230—90" Draper Model L Looms, motor driven, 99½" r.s., 2 bank stop motions.
41—100" Draper Model L Looms, motor driven, 6 bank stop motions.

BOBBINS • SPOOLS • SUPPLIES

WANTED: Your list of Surplus Machinery and equipment for liquidation or outright purchase.

BAY STATE SERVICE ON WOODEN EQUIPMENT

We rebuild or furnish new or used wood equipment.

For instance—if your Roving Bobbins are oil-soaked and rough, we will quickly extract the oil and give them a new finish, keeping them in production.

We will repair, refinish and re-enamel your bobbins like new. In addition, we offer the largest and most complete stock of bobbins, spools and skewers.

Bay State Emergency work in modern repair shops is your assurance of continuous production.

Send us samples and let us quote you. Bay State prestige in progressive mills everywhere is proof we can satisfy you.

SERVICE

We maintain a modern equipped **BOBBIN REPAIR SHOP** — rebuild or refinish your bobbin equipment. Apply Anderson metal bushings and shields or change existing bobbins to fit your new machinery.

We also act as your representative in the purchase of items needed, serving you in your best interests. Our more than 25 years of service is at your disposal in making inspections or appraisal of machinery.

BTS

BAY STATE TEXTILE CO.

220 HARTWELL STREET • FALL RIVER, MASS.

1952 . . . . . AS FOR 35 YEARS BUY FROM HEADQUARTERS

17—Butterworth Stainless Steel Dry Cans, 132" face, syphon type, complete with motor drive.

50—Textile Machine 4" gear Wire Braiding Machines.

2—Economy All Steel Waste Baling Presses, motor driven.

2—Raschel Knitting Machines, all attachments, motor driven.

1—Barry 61" Spreader, complete with heating coils, motor drive.

1—Meadows 78" Double Knife Coating Machine.

1—Parks & Woolson *Brand New* 66" Springfield Doubler & Winder.

1—American Centrifugal 60" Extractor, Herosite Basket, M.D.

4—*Brand New* Cidega Looms, 54" with double fringe attachments.

1—National 8-Fan 84" Loop Dryer, rebuilt, motor driven.

1—Carbomatic 60" Singer, motor driven.

1—Textile Finishing Co. 40'—72" Tenter Frame.

COMPLETE MODERN TURKISH TOWEL MANUFACTURING PLANT.

WE BUY FROM A SINGLE ITEM TO A COMPLETE PLANT

CONSOLIDATED PRODUCTS CO. INC.
13-16 PARK ROW N.Y. 38 N.Y. BArclay 7-0600

SPECIAL OFFERINGS

1—Butterworth, 90' x 60" Tenter Frame, SS clips, motor drive

1—R. B. & F. 2 color, 45" Print Machine, with 12-50" x 23" copper cans

1—P. & S. 50" Air Impinge Roller Dryer, 350° F. tem. 18' long

1—2 roll 64" Embossing Calender, Colonial grain

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140 Market Street IPA Paterson, N. J.
SHerwood 2-6614-5-6 CABLES: *Texindus*

S&K Where your $$$$ buy MORE

COMPLETE PLANT—PLASTIC SEAT COVERS C & K AUTO. LOOMS 82"

50 C & K S-3 LOOMS 54" R.S.

60 FOSTER CONERS MODEL 75A

50 C & K 2x1 52" R. S.
16 C & K 2x1 Automatic 72" R. S.
6 C & K 4x4 72" R. S.
56 C & K 4x1 56" R. S.
4 C & K 110" R. S. 4x4
2 C & K 100" R. S. 4x4
12 C & K 92" R. S. 4x1 Automatic
18 C & K 4x1 Automatic 82" R. S.

DYEING MACHINERY

1 80" wide Pin Tenter Frame
1 40" Hinnikens 60" frame with Gas Burners, reeves & motor
6 60" Hinnikens Jiggs all stainless steel
1 Paterson Examiner, 72" wide
1 72" Park Woolson Decater
1 Set 18 Dry Cans 48" face; 5 stainless steel, 13 iron tinned with reeves
8 Dry Boxes S.S. lined 8'—10'—12'
1 Jostrom fabric conditioner 64"
1 19 can Butterworth dryer 72"
1 Textile Tenter Frame 52" wide 40' long
4 Three (3) Roll Padders 45"
30 50" Dry Cans

SILK THROWING MACHINERY

5 Atwood 58 Twisters
9 Atwood Single Deck Utility Spinners
8 Sipp Warpers & Winders
20 #90 Universals
4 Oswald-Grundy 46—Spindle Cop Winders

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FOR RENT—ANY ONE OF OVER 200 COMPRESSORS IN STOCK

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used and rebuilt

KNITTERS — RIBBERS — LOOPERS — CYLINDERS — DIALS — TRANSFERS
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FOR SALE

1—Sargent 78" Raw Stock Dryer, 1942
1—Sargent Automatic Bagging Machine
2—D&F double Cyl. Worsted Cards 54x54
1—D&F Metallic Breast
12—C&K W-3 Looms 82" 4x1 Box
50—C&K 56" 8-5 Looms
50—C&K 56" 8-5 Looms
1—Worcester Warp Compressor Warper for Narrow Fabrics
2—Barber-Colman Portable Knot Tyers
24—Spindles Whitin Schweiter Winders
50—Allen Section Beams 30" dia. Heads
1000—Fibre Roving Cans 12" x 36"
Modern Weaving Plant XD Looms, Hi-speed Warpers.

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COMPRESSOR VACUUM PUMP STEAM BOOSTER
L.W.BAUER
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FOR SALE
8—82 C & K Auto Looms
2—72 C & K Auto Looms
All motorized
Been weaving Plastic—being replaced with new looms
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113 West Bank St. Petersburg, Virginia

FOR SALE AT FAIR PRICES AT OUR WAREHOUSES

100M 7⅜" A.L. Bobbins #5 Butt
25M Saco Lowell 10x5 Slubber bobbins
1 Million 8¾" A.L. Bobbins (wool) oil finish
100M Skewers 10x5—7½x3
20M Fibre hd. spools 3"x3⅝ (rayon)
15M Fibre hd. spools (Misc. sizes)
100 Herr Rings 4" with holders
1500 Roving Cans 10, 16, 18x36
200 Trucks, wood & Fibre
1,800,000 Drop Wires Draper .008 (closed)
C&K Draper Loom parts, Pick Gears, Reeds, Rings, Temples & Parts, Pick Clocks, Pulleys, Drop Wires, Heddles, Stop Motions etc.

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P.O.BOX 495, Established 1920 Tel. 3-1314 PAWTUCKET, R.I.

1500 12 x Roving Cans
5 Barber Coleman LS Portable Knot tying Machines
6 Barber Coleman & Portable Knot tying Machines

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in textiles—anything from a lap-rod to complete plant

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4 AUTOMATIC WOOLEN LOOMS

Crompton & Knowles 92" 20 Harness 4 x 1 box looms, Gem Heads, Model W-2. Complete with pick clocks and motors.

AMERICAN TWINE & FABRIC CORP.
Salmon Falls, New Hampshire

FOR SALE

Screen printing machine for 60" goods, 6 colors, with dryer. Product can be sold as hand printed. With drive and all accessories.

51" Barry spreader with insulated oven and three-speed motor.

61" Barry spreader with insulated oven, driven by motor-Reeves-reducer combination.

Flocking unit for 54" goods (all-over application) complete with all elements and variable speed drive.

WILLIAM R. KENT
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FOR SALE
Woolen Looms

Twelve—1 x 1 48" C. & K. Large Boxes.
Ten —4 x 4 72" C. & K.
Ten —4 x 4 76" C. & K.

Motor Driven

All in good running order.

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50" DRAPER "XD" DOBBY, 1949-1950
WHITIN AUTO. QUILLERS, 1949-1950
58" HERMAS SHEARER, 1950
NEW MILL BUILDING
Details on Request

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1949-LS TYPE, MOTOR DRIVEN—EXCELLENT CONDITION

S-4, 54" R.S., 4x1 AUTO. SHUTTLE CHANGE

SLASHERS—52", 60", SILK AND COTTON SYSTEM

S-5, 56" 2x1 AUTO. BOBBIN CHANGE, 1942

84" SIPP HI-SPEED WARPER WITH 840-END MAGAZINE CREEL

100 DRAPER MOD. "D" LOOM PLANT, COMPLETELY EQUIPPED—NEW ENGLAND

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Repeaters, Lacers, Card Cutters, Jacquards of all description. Steel Heddles & Lingoes. Quilling Machines No. 10.

EUGENE SECKLER
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7—Readings, 45 gauge, 28 section, single needle bar, high speed, 11,000 serial range. Lot No. 22279.
4—Readings, 45 gauge, 24 section, single needle bar serial range 10,000. Lot No. 22279.

MORRIS SPEIZMAN CO., Inc.
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Phone 4-5546

FOR SALE

370 DRAPER MODEL XK 44" MOTOR DRIVEN LOOMS

264—cam looms, 2-8 harness

106—25 harness dobby looms

45" reed space, #75 silk take-up, Roper let-off, side filling fork, six bank sliding bar stop motion, pick counters, ¾ H.P. 220/60/3 motors

These looms will be ready for delivery the middle of February and will be available at a very reasonable price, because they have to be moved.

3 FOSTER MODEL 102 100 SPINDLE CONE WINDERS
9" 15' paper cones, 2—2 H.P. 550/60/3 motors

1 UNIVERSAL #44 100 SPINDLE ROTOCONER
6" paper or Dyetex tubes, Bakelite traverse rolls, 2—3 H.P. 550/60/3 motors

1 FOSTER MODEL 57W 100 SPINDLE DOUBLER
3 ends, 6" traverse, 2—2 H.P. 550/60/3 motors

2 BARBER-COLMAN MODEL LC PORTABLE TYING-IN MACHINES

GEORGE D. FLYNN, JR.
31 CANAL STREET PROVIDENCE 1, R. I.
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COMPLETE

MODERN BOILER PLANT

2—HEINE 518 H.P. BOILERS

built for 250# W. P. and arranged for pulverized fuel and oil firing.

Individual setting with Bigelow Liptak air cooled furnaces: double wall type.

Each Boiler fitted with 2 E. L. Wooley combination Burners for pulverized fuel or Bunker C oil.

2—Raymond #55 Unit Coal Pulverizers, direct motor driven.

1—#90 Clarage Fan, motor driven.

1—Hays Combustion Control Panel with separate controls for each Boiler, consisting of: Recording Flow Meters, Pressure Recorders, Draft, Air Ratio, Damper Controls and Indicators

also

Wheelco Alarm and Flame Control System, CO 2 Recorder, Copes Feed Water Regulator.

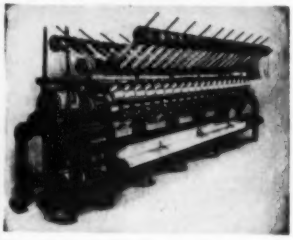
Oil Pumps and Heaters: Coal Hoppers with Syntron Vibrators and many other features to make the operation and control as automatic as possible.

This equipment installed in 1942, operated for approximately six years, set up in Woonsocket, R. I., as operated, and is in perfect condition.

Boilers are Massachusetts Standard and subject to most careful inspection.

Your inquiries are solicited

CONSOLIDATED PRODUCTS COMPANY, Incorporated
443 CLINTON STREET WOONSOCKET, R. I.
Phones: Woonsocket 5700-5701



REBUILT WINDERS

We thoroughly rebuild all types of yarn winding equipment—Universal #5, #6, #10, #50, #60 and #90; Foster Model #12, #30 and #101, Lasenby, Oswald Lever, Sipp, Atwood, George Payne.

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1964-1980 Main Street Pawtucket, R. I.
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WE MAKE A SPECIALTY OF ORDERLY PLANT LIQUIDATIONS . . . AND OBTAIN TOP DOLLAR PRICES FOR YOU!

Satisfied textile manufacturers all over the world attest to the dependable EGAN service that quickly converts your machinery into cash, when you need it. EGAN specializes in the orderly liquidation of textile properties and equipment. Avail yourself of this excellent and reliable service in the disposal at any type of textile machinery.

GEORGE EGAN, 239 Main St., Woonsocket, R. I., Tel. 3258

• THE MACHINERY MAN KNOWN EVERYWHERE

MACHINERY FOR SALE
EXCELLENT TEXTILE FINISHING MACHINERY

1—2 roll Pad 44" wide, 1 Copper & 1 Rubber roll
6—50" Flat Head Copper Cans (B.B.)
2—50" S.S. lined Jigs
1—36" Sturtevant B.B. Blower #3
18—Doctor Blade Holders 56" wide & 52"
7—Squeezer rolls, Rubber (new)
1—S.S. Rack for Washmachine
1—60" Rubber roll (good condition)
17—Jig Beams, 46 to 50" wide
1—Arlington Power Sewing Machine
1—#3 Reeves variable speed Drive B.B.
1—64" B.S. Jig Tank
1—Hercules 48" Extractor w/220 V. Motor
5—Mt. Hope Type Rubber Expanders—1/64", 2/64", 1/42", 1/32"
1—Conical Brass Expander
1—60" Copper Can
1—60" Black Rubber Roll, semi soft
1—50" Black Rubber Roll, hard
1—132" S.S. Slat, wide

Wire—Write—Phone

EL. UNION 1-0050

TEXTILE FINISHERS EQUIPMENT
144 WEST RIVER ST
PROVIDENCE, R. I.

Methods Engineering

(*Continued from page 290*)

Future spinners learn by degrees

Women learners are first instructed and given the roll-picking assignment. Here, they get familiar with the spinning operation; and while picking rolls, they must piece up any ends they knock down. By the time they are upgraded to spinner-cleaner, they are able to piece up ends.

As a spinner-cleaners, operators are taught the methods to be used, schedules to be followed, and creeling procedure. The instructor also reviews the operator's method of piecing up ends to be sure that she is using the correct method.

Job-instruction cards were prepared with the aid of the supervisors and instructors. These cards list each detail of the job, show the motions of each hand, and give the key points or "know how" of doing each operation. These instruction cards are of great help in teaching new operators.

With this up-grading system, when a spinner's job comes open we have a good selection of potential spinners. Because these new employees are taught to spin while they earn their way, our spinning-learner's cost has been greatly reduced.

We got other savings we didn't expect

Since the beginning of the new spinning method, we have been able to get other savings by reducing some cleaning schedules and by improving several methods of cleaning.

At the time we separated our spinning operation into its components of spinning and cleaning, we used the schedules for cleaning that were based on the best knowledge available at that time. Since then, we have studied the various cleaning operations and have found that some of the schedules could be reduced economically without lowering the quality of our yarns. This reduction was made possible by fewer ends down and more thorough cleaning.

The methods of performing two of the cleaning operations are improved as a result of the MTM studies, and a third operation has been eliminated.

The time for cleaning revolving top clearers was reduced 10% through methods improvement. The customary way of cleaning these rolls was to remove the roll from the frame and pick the waste from the roll. The improved method is to leave the revolving top clearer in the frame, stop it with one hand, break the waste from the roll, and then pull it from the roll as you would wrapping paper.

The time for cleaning scavenger rolls

(*Continued on page 344*)

PAWTUCKET OFFERS

The following GOOD USED equipment backed by three decades of experience with sound values and assurance that we guarantee each item to be as represented.

INTRODUCES

THE ADDY CREEL, a well designed creel for cotton, rayon, or nylon yarns. Equipped with disc tensions, simplex cone adapters, handles up to 8 lb. packages, electric stop motion, any number of ends required. The Price Will Please. May we have your specifications?

SHUTTLE FUR ????

Let 25 years' experience of importing and manufacturing high quality New Zealand & Australian Opossum skins bring you satisfaction and service to your shuttle fur problems. We maintain our own cutting & processing department, furnishing strip fur to shuttle sizes, or on rolls as required. *Write today for a quotation on your requirements and let*

WHAT CHEER FUR CO.

bring you satisfaction and service

Just what you need may be HERE

- 3 Universal #44 Roto-Coners
- 40 Draper 60" Model K looms dobbies, fully equipped for rayon—550Vt. motors
- 12 Draper 52" Model K looms cam motion, fully equipped for rayon, 550Vt. motors
- 40 Draper 48" Model K looms dobbies, equipped for rayon
- 10 Draper 60" Model D looms dobbies, fully equipped for rayon—550Vt. motors
- 7 Draper 72" Model D looms intermediate gem heads, for fine worsteds—550Vt. motors
- 32 C&K 72" 4x1 auto silk looms gem heads, silk take up fully equipped—550Vt. motors
- 1 Ideal Gas Boiler for steam 30#
- 1 Cotton warping unit—54" warper—1000 end creel (1939)
- 4 Whitin Twisters, 112 spdles. 4½" ga.—3½" ring. Band drive, V belt motor drive
- 1 F&J Twister, 188 spdles, 3½" ga. 2" ring—tape drive
- 800 VR Three shift pick counters Complete with drive assembly
- 1 Herman 68" 4 blade shearer for rayon NEW 1947
- Worcester Dry Slasher 60" with compressor, Reeves drive for beams up to 58" warp x 24" heads NEW 1948
- 26 Draper, 40" Model K looms fully equipped for cotton with 550V motors.
- 48 C&K Veribest Auto. Box looms 4x1 82" with 25 har. gem heads elec. stop motion—motor grive
- 2 C&K 56" 4x4 box looms with dobby heads —rayon
- 22 C&K Narrow Fabric Looms with dobby heads for 1" to 2½" webbing
- 2 Complete narrow fabric warping units and creels
- 2 Foster #12 Cone Winders
- 2 Foster #30 Cone Winders
- 85 Bahnson Rebuilt High Speed Model H Humidifiers
- 300 Textile Loom Motors 1 HP 220/550 Vt.
- 100 Allen Section Beams 54"x28"

180 Draper XK LOOMS 44" CLOTH 25 HAR. DOBBIES
100 PAYNE AUTOMATIC LET-OFF MOTIONS
3 NEW PAWTUCKET 56" INSPECTING & MEASURING MACHS.

ALL OFFERINGS SUBJECT TO PRIOR SALES
PARTIAL LISTING ONLY—SEE THESE AND ALL OUR EQUIPMENT AT OUR NEW BUILDINGS ON YORK AVE.

PAWTUCKET MILL SUPPLY CO., INC. (1923)
240 YORK AVE. PAWTUCKET, R. I.
Tel. PA 2-0950—51

BARGAIN AT $4000.00

8 C & K Looms, Intermediate, 76", Automatic, 4 x 1 Box, individually motor driven. With auxiliary dressing, winding and spooling machinery. A unit complete with reeds, harnesses, shuttles, etc. Will produce 2,000 yds. weekly. Opportunity for export; for clothing manufacturer to make own cloth; or for someone to get into weaving business economically.

FS-3010, Textile World
330 W. 42nd St., New York 36, N. Y.

FOR SALE

Active PILE FABRIC MILL

(Plush and Frieze, Jacq. & Plain)
with Dyehouse and Finishing Plant, Bldgs. and Mach. near Philadelphia Pa. 3 boilers, 2 oil, 1 coal. Capacity up to 20000 yds per 3 shift week. Excellent opportunity for right party. Write Box #

BO-2936, Textile World
330 W 42nd St., New York 36, N. Y.

TEXTILE PLANT WANTED: We are now manufacturing over $20,000,000 in various lines and wish to expand by acquisition of assets or stock of one or more industrial companies. In our negotiations the seller's problems and wishes will receive full consideration. Present personnel will normally be retained.

Address all replies

"Confidential" C. J. GALE, Sec.
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FOR LEASE up to 50,000 Sq. Ft.
For Storage or Manufacturing
RHODE ISLAND
Between Providence & Westerly
MILL CONSTRUCTION SPRINKLERS
BOILER PLANT WATER POWER
PAUL M. BROOMFIELD
Rebuilt Textile Machinery
5 Colliston Rd., Brookline 46, Mass.
Longwood 6-3980

New Advertisements

received by February 15th will appear in the March issue subject to limitations of space available.

Address copy to the Classified Advertising Division
TEXTILE WORLD
330 W. 42nd Street, New York 36, N. Y.

A&M BLANK CO., INC.

TEL. SHERWOOD 2-1367

49 STATE ST. PATERSON, N. J.

IMMEDIATE DELIVERY

- 1—V. V. Palmer Quetch Unit 64" with Compensator and Blanket.
- 1—8-Fan National Loop Dryer, revolving Sticks $4500.00
- 1—64" x 40' Tenter Frame, S. S. Clips
- 1—72" x 70' 5-tier Pin Dryer, 10 passes automatic opener $4500.00
- 1—50" Single Color Print Machine $750.00
- 1—50" 2-Roll Morrison Padder $375.00
- 1—50" Morrison Button Breaker, Ball Bearing $400.00
- 1—Set 6 Copper Dry Cans, 50" x 30" dia.
- 4—Dinsmore Bicycle Sewing Machines $50.00 each
- 1—48" Hermas Inspection & Measuring Machine $200.00
- Reeves Transmissions #2—$150.00 #3—$200.00 #4—$250.00

Remember the full name—for full value—

NOTICE

- After March 1, 1952, look for us at our new location 301-313 East 22 St. (at 7th Ave.) Paterson, N. J. Sherwood 2-1367-8

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8-5616
SPECIALIZING IN BLEACHING, DYEING AND FINISHING MACHINERY SINCE 1920

(*Continued from page 342*)

was reduced 30% through methods improvement. This improvement was accomplished by eliminating several unnecessary motions.

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We like MTM. It is very good, and so are stop watches. Our experience has been that in some places you can't use MTM, but when we have a choice of using either MTM or stop watches, we find MTM better.

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Additional Wanted Ads on pages 340 & 343

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1 Fidelity Bottle Bobbin Backwinder.
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(Additional Position Vacant Ads on the opposite page)

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COMMISSION SPINNING ON WOOLEN SYSTEM

Wool, Nylon or Blended yarns

by mill with modern equipment. Sizes 1 to 6 run, single or plied.

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West Warren, Mass.

Business Opportunity Advertising Page 343, Wanted Advertising Page 345

MEN WANTED

POSITIONS OPEN

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OVERSEERS FOR FOLLOWING DEPTS.: worsted carding; cotton spinning (Canada); finishing narrow fabrics; cotton-rayon piece goods dyeing; finishing knit, worsted jersey cloth; yarn dyeing Klauder Weldon machines; hosiery boarding; woolen frame spinning; cloth room; finishing spun rayons, attractive salary; cutting and sewing knit goods; finishing pile fabrics; woolen carding and spinning combined; woolen finishing 3rd shift; winding, warping, twisting and slashing.

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- 30—H&B Spinning Frames, 3¼" ga, 240 spdls, tape drive
- 16—Draper Twisters, 3" ga., 200 spdls, tape drive
- 14—F&J Twisters, 2¾" ga., 256 spdls, band drive
- 8—H&B Twisters 4½" ga, 132 spdls, band drive
- 2—H&B Twisters, 3" ga, 228 spdls, tape drive
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- 300—Draper XD Looms, 44" cloth, 20 harness, 1941, M. D.
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- 1—W&J Tenter Frame, 60' long, 54" wide, M. D.
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This is the amazing "before-and-after" story

that's told over and over again!

Textile World, November, 1951

New Agents Clean Machine Parts by Cold Dipping

BEFORE AFTER

A remarkable cleaning job is claimed for Kleenapart and Kleenakarb, new cleaning agents developed by The Selig Co., 336-350 Marietta St., N.W., Atlanta 1, Ga. The agents will clean valves, gears, sprockets, frames, chains, screens, and all machine parts. The removal of oil, grease, dirt, grime, carbon, and other foreign matter is accomplished by a simple "cold dipping" process that requires no attention, it is claimed. Parts to be cleaned are simply immersed in Kleenapart or Kleenakarb for the required length of time, then removed, rinsed, and are ready for use or storage. Both products are listed by the Underwriters' Laboratories and are safe to use when directions are followed.

Selig's Kleenapart and Kleenakarb were originated to meet the exacting requirements of the aircraft industry. Peacetime industries, one after another, quickly grasped these amazing benefits: Complete removal of oil, grease, dirt, carbon and other foreign matter from metal parts by a simple "cold dip" process. Long life and low cost are included with the many advantages of using . . .

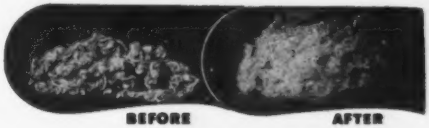
Kleenapart-Kleenakarb
Clean Machine Parts by Cold Dipping

Manufactured only by
The Selig Co.
Manufacturing Chemists
Since 1896

QUALITY · SERVICE · SELIG · CONFIDENCE · PROTECTION

ATLANTA
DALLAS NEW ORLEANS HOUSTON

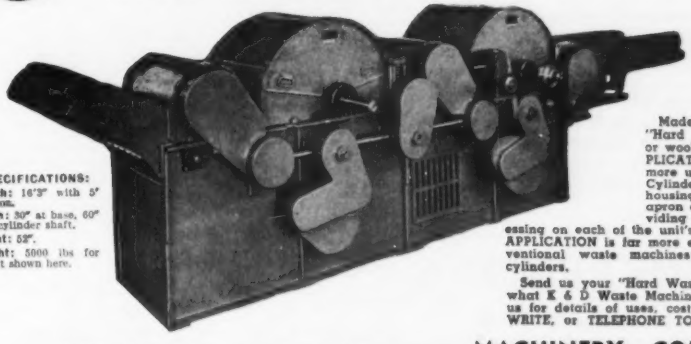
You can now whip your "HARD WASTE" problem—with the



BEFORE AFTER

LEFT above is hard twist unsized cotton warp waste. RIGHT—the processed waste after one time through K & D Tandem Unit. Many mills, pleased with such results from first installation, have ordered additional units.

K&D TANDEM APPLICATION WASTE MACHINE



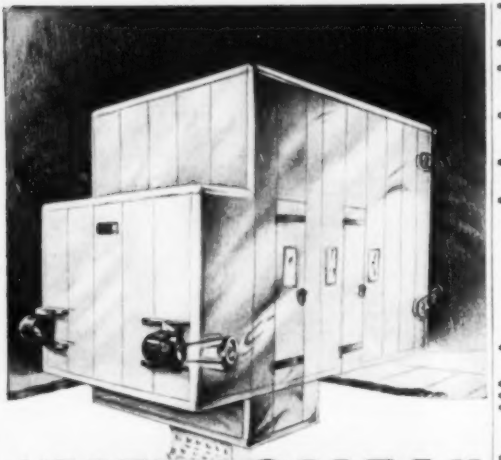
SPECIFICATIONS:
Length: 16'3" with 5' aprons.
Width: 30" at base, 60" at cylinder shaft.
Height: 52".
Weight: 5000 lbs for unit shown here.

Made for processing unsized "Hard Waste" in cotton, rayon, or wool, this new TANDEM APPLICATION combines two or more units of the K & D Single Cylinder Waste Machine in one housing, with only one feed apron and one exit apron. Providing double-action waste processing on each of the unit's cylinders, the TANDEM APPLICATION is far more efficient than bulky, conventional waste machines with twice as many cylinders.

Send us your "Hard Waste" samples for proof of what K & D Waste Machines can do for you. Ask us for details of uses, cost and installation. WIRE, WRITE, or TELEPHONE TODAY, to

Kirkman & Dixon MACHINERY COMPANY
Greenwood, South Carolina

K & D SINGLE CYLINDER WASTE MACHINES • F-5 HOPPER FEEDERS, ANY WIDTH • SARGENT COMBS



"NATIONAL" PRINT GOODS DRYER

MODEL PTD-4

New standards for efficiency, speed and versatility are established in this latest model PRINT GOODS DRYER by "NATIONAL".

PRE-DRYER SECTION. A specially designed tower structure which operates to assure three significant results—(1) a positive color set as the result of exceptionally quick drying to the required degree; (2) reduction to absolute minimum the space necessary for this operation; and (3) important savings in the time and costs involved in finish drying. Increased drying capacity in this section may be obtained by use of "Drop Leg" extending through floor to room below.

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VARIOUS ARRANGEMENTS. Because of its unique self-contained unit construction, the "NATIONAL" Print Goods Dryer may be installed in several ways to meet particular production requirements or existing plant conditions.

HIGH-SPEED FOLDER. If desired, the Dryer can be equipped at the back with a special High Speed Folder which, operating in conjunction with Draw Rolls, pleats the dried cloth into folds in trucks or on skids.

Send for New Illustrated Folder

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TEXTILE WORLD

FEBRUARY, 1952

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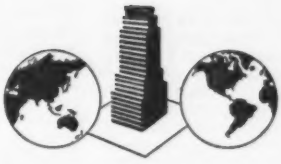


▸ **Brief Summaries in Spanish, French, and German of the Major Feature Articles in This Month's Issue**

Español

Página 107

Sección de Revista y Pronóstico. La primera parte de la edición de este mes es una revista hecha por los redactores de TEXTILE WORLD de los acontecimientos sobresalientes en la manufactura de textiles en el año 1951 y un pronóstico de lo que muy bien puede ocurrir en 1952 en el ramo textil. Las secciones están dedicadas al aspecto americano en general, a la producción de fábrica, a las tendencias de comprar de las fábricas, desarrollos en maquinarias, éxitos en la investigación, tendencias hacia los procedimientos en húmedo, los problemas de elaboración de tejidos de lana y estambre, la técnica de construcción de edificios de fábricas, el efecto de la política de Wáshington, los problemas obreros, y los éxitos logrados en la manufactura en países extranjeros.

Página 123

Mejorando la Calidad de las Mechas. Un análisis sistemático de todos los procedimientos de elaboración – incluyendo organización de existencias, condiciones mecánicas de las máquinas, ajustes, programas de limpieza y la operación en sí – indica a menudo las maneras de mejorar la calidad de las mechas. Las etapas usadas son bosquejadas como: (1) determinación de las faltas del producto; (2) localización de las causas o causa; y (3) corrección de la condición o condiciones responsables.

Página 124

Entrenamiento de Tejedores. El artículo ofrece información detallada sobre el entrenamiento un día tras otro sobre los métodos de enseñanza industrial en general. Una etapa recomendada es la de utilizar un juego completo de máquinas para la enseñanza. Una hoja de instrucciones usada por una

Français

Page 107

Revue et Prévisions. La première partie du numéro de ce mois est consacrée à une revue faite par les éditeurs de TEXTILE WORLD des faits saillants de 1951 et à une prévision de ce que 1952 apportera peut-être à l'industrie textile. Des sections spéciales traitent des matières suivantes: production des usines américaines, nouveau matériel et tendances qui se sont manifestées dans les achats de machines, résultats des recherches techniques, nouvelles méthodes de traitement au mouillé, problèmes de fabrication d'articles peignés et cardés, nouveautés en construction d'usines, résultats et influences de la politique de Washington, questions de personnel, et techniques étrangères.

Page 123

Comment améliorer la mèche. Une analyse systématique de tous les facteurs de production – y compris la composition des mélanges, l'état mécanique des machines, les réglages, le graissage et tous les détails de la production – permet souvent de trouver des moyens d'améliorer la qualité de la mèche. La marche à suivre comprend les trois points suivants: (1) déterminer les défauts de la mèche; (2) trouver la cause ou les causes; (3) éliminer les facteurs responsables.

Page 124

De l'apprentissage des tricoteurs. Cet article donne des instructions sur une méthode d'apprentissage et fixe le programme d'instruction de l'apprenti pour chaque jour. Il contient en outre des informations de nature générale sur les méthodes d'enseignement industriel. On recommende spécialement de faire porter la formation de l'ouvrier sur un groupe complet des machines. On a reproduit à titre d'exemple une page d'instructions qu'une usine emploie

Deutsch

Seite 107

Rueckschau und Voraussage. Der erste Teil der diesmonatlichen Ausgabe ist ein Rueckblick der Herausgeber der TEXTILE WORLD ueber die hervorstechendsten Ereignisse des Jahres 1951 und eine Vorraussage, was sich in 1952 in der Textilindustrie ereignen koennte. Ein Abschnitt ist dem allgemeinen amerikanischen Bild gewidmet, wie Fabriksproduktion, Tendenzen in Fabrikskaeufen, Entwicklungen in Maschinen, Forschungserfolge, Tendenzen im Nassverfahren, Probleme der Woll- und Kammgarnerzeugung, Techniken im Errichten von Fabriksgebaeuden, die Auswirkung der Politik in Washington, Personalprobleme, und Erzeugungserfolge des Auslandes.

Seite 123

Verbesserte Qualitaet des Vorgarnes. Eine systematische Analyse aller Faktoren der Arbeitsverfahren, wie Organisation des Lagers, mechanischer Zustand der Maschinen, Einstellungen, Reinigungseinteilung, und der Arbeitsvorgang selbst, weisen die Wege zur Qualitaetsverbesserung. Die unternommenen Schritte sind zusammengefasst als: (1) Bestimmung der Erzeugungsfehler, (2) Feststellung der Ursache oder der Ursachen, und (3) Korrigieren des dafuer verantwortlichen Zustandes.

Seite 124

Abrichten von Strickern. Detaillierte Unterweisungen im Tag-fuer-Tag Ausbilden von Strickern werden angefuehrt, sowie einige grundlegende Informationen bezueglich Industrie-Lehrmethoden im Allgemeinen gegeben. Es wird der Unterricht an einem kompletten Satz von Maschinen empfohlen. Ein Instruktionsblatt, das eine Fabrik fuer die Unterweisung im Abschneiden der Ware von der Abnehmerwalze verwendet, ist abgebildet.

fábrica para enseñar cómo cortar el material de un rollo de tela es ilustrada aquí.

Página 126

Mudanza de un Telar en 14 Minutos. Con el uso de un carro especial (hecho en el taller de máquinas por menos de $30) y dos levantadores de cadena, se mudaron 276 telares a razón de 34½ telares diarios. El tiempo medio requerido por mudanza fué de 14 minutos. Los telares solo tuvieron que ser levantados de las almohadillas de fieltro, se desconectaron las conexiones eléctricas y se levantó el telar intacto con la grúa pasándose a través de un agujero en el piso.

Página 128

Cómo se Utilizan Actualmente los Estiradores de Peines. Se ofrece la organización completa para la manufactura de diversos tipos de hilos de estambre con los sistemas French y Bradford, en los cuales se utilizan los estiradores de peines. Se incluyen datos sobre las cargas de trabajo y los costos, así como también cálculos para determinar la producción, eficiencia y costos de los estiradores de peines.

Página 134

Evaluación de las Calidades del Algodón en 1951. Tres fábricas de algodón decidieron, por medio de una serie de ensayos, que la cosecha de algodón de 1951 es muy buena bajo el aspecto de calidad. El grupo no estuvo conforme con la cosecha de 1949-1950, por lo que usó el algodón de 1948-1949, el cual estaba disponible sobre la misma base, comercialmente, hasta que llegó la nueva cosecha de este año. En el artículo se tabulan los resultados de las operaciones del ensayo.

Página 138

Cómo Reducir los Botones. Para tener menos botones en el algodón de cardadura, trabaje menos su algodón en las operaciones de apertura y selección. Debe evitarse el batido excesivo. Y en las cardas, el tomador y el cilindro deben alcanzar más o menos la misma velocidad de superficie. En el procedimiento de estiraje, éste debe hacerse al mínimo si los botones son un factor significativo en la calidad final.

Página 139

Dianóstico de Falla de los Cojinetes. Este artículo ilustra y describe los tipos comunes de falla de cojinetes. Se ofrecen métodos para localizar la causa de la fala y para corregirla. También se sumarizan las ventajas y desventajas de los cojinetes sencillos y de antifricción para usos específicos.

Página 143

Reducido el Encogimiento del Tejido.

pour enseigner comment on coupe un rouleau de tricot.

Page 126

Métiers à tisser déplacés en 14 minutes. Grâce à l'emploi d'un chariot spécial qui fut fabriqué dans les ateliers de l'usine pour moins de $30 et de deux grues, 276 métiers furent déplacés à raison de 34½ métiers par jour. Le temps moyen par métier fut 14 minutes. On souleva simplement les métiers de leurs semelles de feutre, après avoir dégagé le contact du courant électrique et on les passa tout d'une pièce par un trou fait dans le plancher.

Page 128

De l'emploi des étirages à barrettes. L'article donne une description complète de l'emploi des étirages à barrettes dans la production de fil peigné produit par le système français et Bradford et parle également du prix de revient ainsi que des quantités qui peuvent être atteintes. Des exemples chiffrés sont également donnés sur la production, le rendement, et le prix de revient de ces articles.

Page 134

Qualité des cotons de 1951. La conclusion atteinte par trois usines qui firent des essais pour estimer la qualité des cotons de 1951 est que ceux-ci sont en général d'excellente qualité. Les usines en question n'aiment pas le coton de la récolte de 1949-1950 et avant que la récolte de 1951 ne fut sur le marché, elles utilisèrent du coton de 1948-1949 qui pouvait s'obtenir sur la même base. Le résultat des essais est analysé dans cet article.

Page 138

Comment réduire les boutons. Une façon de réduire la quantité de boutons consiste à agir moins sur la matière dans les ouvreuses et batteuses. Veillez aussi que la vitesse du briseur et du cylindre de carde soit à peu prés la même. Il y a également lieu de réduire les étirages au minimum si la question des boutons est un facteur d'importance dans le produit final.

Page 139

Comment diagnostiquer les usures de roulements. Les causes communes d'usures de roulements sont décrites et illustrées dans cet exposé qui donne en même temps des indications pratiques sur certaines méthodes permettant de déceler ces défauts et pour y remédier. L'auteur donne son avis quant aux avantages et aux inconvénients des roulements ordinaires et des roulements à billes.

Page 143

Comment réduire le rétrécissement des tricots. Un nouveau dispositif qui réduit le rétrécissement des tricots a été inventé. Ce dispositif peut s'adapter à

Seite 126

Transport eines Webstuhles in 14 Minuten. Durch Verwendung eines speziellen Wagens (erzeugt in der Fabrikswerkstaette fuer weniger als $30.) und 2 Kettenaufzuegen, wurden 276 Webstuehle, mit einer Geschwindigkeit von 34½ Webstuehlen per Tag, uebersiedelt. Die benoetigte Durchschnittszeit per Webstuhl war 14 Minuten. Die Webstuehle wurden einfach von den Filzpolstern hochgehoben, die elektrischen Verbindungen entfernt, und die Webstuehle intakt durch ein Loch im Boden aufgezogen.

Seite 128

Wie "Pin Drafters" verwendet werden. Es wird die komplette Organisierung zur Erzeugung von verschiedenen Arten des Kammgarnes nach dem French- und Bradford System gegeben, bei welchem der "Pin Drafter" gebraucht werden kann. Daten bezueglich Arbeitsbelastung und Kosten sind inbegriffen. Einige Berechnungen betreffs der Hoehe der Erzeugung, der Leistungsfaehigkeit und der Kosten bei Verwendung des "Pin Drafters" werden ebenfalls gegeben.

Seite 134

Einschaetzung der Baumwollqualitaet von 1951. 3 Baumwollfabriken haben durch eine Serie von Versuchen festgestellt, dass die diesjaehrige Baumwollernte qualitativ sehr gut war. Diese Gruppe hielt nichts von der 1949-50er Ernte und verwendete die 1948-49er Baumwolle, welche zu denselben preislichen Bedingungen zu haben war, ehe die heurige Ernte hereinkam. Die Resultate der Versuche sind in diesem Artikel mit Tabellen angefuehrt.

Seite 138

Wie man Noppenbildung reduziert. Um weniger Noppen beim Krempeln von Baumwolle zu haben, soll man die Baumwolle beim Oeffnen und Pelzmachen weniger bearbeiten. Uebermaessiges Klopfen soll vermieden werden und auf der Karde soll die Vorreisswalze und der Zylinder mehr oder weniger dieselbe Oberflaechengeschwindigkeit haben. Im Zugprozess soll das Strecken auf ein Minimum gehalten werden, wenn die Noppen ein bedeutender Faktor in der Endqualitaet sind.

Seite 139

Wie man schlechte Lager feststellt. Gewoehnliche Arten von Lagerbruechen werden in diesem Artikel beschrieben und illustriert. Methoden werden angefuehrt, um die Ursachen des Nichtarbeitens festzustellen und zu beheben. Vor- und Nachteile der reibungslosen und gewoehnlichen Lager sowie deren spezielle Verwendungsmoeglichkeiten werden aufgezaehlt.

Un nuevo dispositivo de antiencogimiento adaptable a las máquinas tejedoras circulares ha sido desarrollado. Las telas, tejidas con los mismos ajustes de excéntricos, encogen menos del 40 por ciento de largo. Durante la tejedura el aditamento descansa en los cilindros estriados, y las medias son tiradas sobre ellos. Existe un aumento en la anchura, producido por el uso del dispositivo de control.

Página 144

Sistemas de Estudio de Métodos y Trabajos. La sala de hilatura de una fábrica de la Carolina del Norte ha hecho analizar sus trabajos y se ha reorganizado completamente por un sistema de estudio de métodos de trabajo conocido como "Medición del Tiempo en los Métodos." La eficiencia ha mejorado, hay menos cabos rotos en las continuas de anillos, la limpieza es mejor, y ha aumentado la calidad de los hilos. En este informe se explica detalladamente, con ejemplos, cómo la fábrica realizó la labor por medio del análisis de los movimientos.

Página 151

Géneros Revestidos. Este artículo, el primero de una serie sobre telas revestidas, trata de las posibilidades de mercado para las telas revestidas como son producidas por las acabadurías. Los factores que hay que tener en cuenta al determinar las posibilidades son detallados en el artículo. Se trata ampliamente de cómo, encontrar el valor relativo de cada uno de ellos. Se dan las ventajas que perciben las acabadurías que entran al campo del revestimiento de géneros.

Página 155

Producción y Ventas Sincronizadas. El artículo recomienda la organización de un departamento de proyección de producción para las fábricas, así como dice las ventajas que ofrece ese departamento. Este no tan solo coordinará la producción de la fábrica sino que coordinará la investigación del mercado, la determinación de los productos, la normalización, el análisis de las ventas, el pronóstico de ventas, y el control y proyección total de la fábrica.

Página 161

Desarrollador Electrónico de Plegador de Urdimbre. Una fábrica del estado de Nueva York ha reducido las "segundas" de la tejedura irregular de alfombras de nilón por medio de un control sincronizado de tensión promedio y de relación de avance de los plegadores de urdimbres detrás del telar. El control electrónico es relativamente insensible a las variaciones del voltaje, temperatura y humedad. Sin embargo, regula con exactitud la tensión del plegador en las diversas velo-

des métiers circulaires existants. Le rétrécissement dans le sens de la longueur diminue de 40% sans qu'il soit nécessaire de changer le réglage du métier. Pendant le tricotage, ce dispositif repose sur les rouleaux flutés de traction, et l'on passe le tricot par dessus. Une augmentation en largeur est créé en même temps.

Page 144

Analyse des différentes tâches. Une filature de la Caroline du Nord vient de reviser l'analyse des différentes tâches et occupations par un système "Méthode de mesure des temps" (MTM). Ceci a permis d'améliorer le rendement et de réduire le nombre de bouts rompus par banc tout en améliorant la qualité des fils et l'état de propreté du matériel. Vous verrez dans cet article comment ce résultat fut obtenu grâce à une étude ingénieuse des mouvements du personnel accomplissant sa tâche.

Page 151

Des tissus enduits. Cet article, le premier d'une nouvelle série sur ce sujet, parle des possibilités d'écoulement de tissus enduits produits dans des usines d'apprêts. Une liste énumérant les facteurs à considérer est donnée. L'auteur discute également la manière de déterminer la valeur relative de chacune de ces facteurs. Les avantages qu'un apprêt peut tirer de cette fabrication sont également énumérés.

Page 155

Synchronisation de la production et de la vente. On recommande dans cet article la création d'un département chargé de l'étude de la production, citant les avantages qui peuvent découler de l'introduction de ce système. Ce département ne devra pas nécessairement se limiter simplement à la coordination de la production mais pourra s'occuper des recherches de débouchés, de l'étude de produits, de la standardisation, de l'étude des ventes et de leur analyse, des prévisions de vente, du programme de production et de son contrôle.

Page 161

Système electro-magnétique de déroulage de la chaine. Une usine de tapis en nylon de l'Etat de New York à réduit ses défauts de tissage grâce à l'emploi d'un système de déroulage de l'ensouple basé sur la tension moyenne et sur le contrôle du débit de chaîne, qui est installé derrière le métier. Ce contrôle électronique est relativement insensible aux variations de voltage ainsi qu'aux changements de températures et d'humidité. Malgré cela il agit avec précision et maintient la tension de la chaîne à des conditions variables de vitesses, de déroulage, et de diamètres d'ensouples.

Seite 143

Verminddertes Einschrumpfen im Stricken. Eine neue, am Rundstuhl zu befestigende Anti-Einschrumpfvorrichtung, wurde auf den Markt gebracht. Die mit derselben Hubscheibeneinstellung gestrickten Fabrikate schrumpfen um 40% weniger in der Laenge ein. Waehrend des Strickens ruht diese Vorrichtung auf den geriefelten Walzen und der Socken wird darueber gezogen. Durch Gebrauch der Kontrollvorrichtung wird eine Vergroesserung der Weite erzeugt.

Seite 144

Studie fuer Systemisierung von Arbeitsmethoden. In der Spinnereiabteilung einer North Carolina Fabrik, wurde jede einzelne Arbeit analysiert und sodann ein neues Arbeitssystem, das gruendlich studiert wurde und als "Zeit-Mass-Methode" (MTM) bekannt ist, eingefuehrt. Die Leistungsfaehigkeit wurde erhoeht, es gibt weniger Fadenbrueche, es wird besser gereinigt und die Qualitaet des Garnes ist verbessert. Wie diese Fabrik diese Arbeit durch "Bewegungsanalyse" bewerkstelligt hat, wird durch Beispiele ausfuehrlich erklaert.

Seite 151

Ueberzogene Fabrikate. Dieser Artikel, der erste in einer Serie betreffend ueberzogener Fabrikate, eroertert die Absatzmoeglichkeiten fuer ueberzogene Fabrikate, wie sie von Appreturen herausgebracht werden. Die in Betracht zu ziehenden Faktoren werden aufgezaehlt, und die relativen Werte jedes einzelnen besprochen. Die gesammten Vorteile werden angefuehrt, die sich fuer eine Fabrik ergeben, welche sich mit ueberzogenen Materialien befasst.

Seite 155

Synchronisierte Produktion und Verkaeufe. Die Organisierung einer Erzeugungsplanenden Abteilung wird fuer Fabriken empfohlen und die Vorteile einer solchen angefuehrt. Diese Abteilung muss nicht nur lediglich die Produktion der Fabrik coordinieren, sondern auch Absatzmoeglichkeiten, Erzeugungsbestimmungen, Vereinheitlichung, Verkaufsanalyse, Verkaufs prognose, Fabriksproduktion, Planen und Kontrolle, in Uebereinstimmung bringen.

Seite 161

Elektronischer Kettenbaum-Abschluss. "Secundaware" durch ungleichmaessiges Weben von Nylonteppichen, wurde in einer im Staat New York befindlichen Fabrik, durch eine synchronisierte Durchschnittsspannung und Zufuhrskontrolle von Kettenbaeumen hinter den Webstuehlen, herabgesetzt. Die elektronische Kontrolle ist verhaeltnismaessig unempfindlich gegen

cidades del desarrollador y de los diámetros de los plegadores.

Página 165

Las Tablas y los Gráficos Ayudan en el Control de la Sala de Tejedura. Las tablas y los gráficos, hechos apropiadamente y usados por los contramaestres y auxiliares, son herramientas valiosas en la producción. Con su uso se pueden mantener datos permanentes, se puede comparar la eficiencia de los turnos, determinarse las causas de la reducción de producción, y reducirse las "segundas" excesivamente altas.

Página 169

La Madurez del Algodón Afecta los Botones. Un experimento hecho por una fábrica para determinar el efecto de la madurez del algodón sobre los botones del hilo mostró que una diferencia del 10 por ciento en la madurez entre dos algodones produce alrededor del 50 por ciento de diferencia en los botones. Los botones en estos velos de carda fueron hechos de dos algodones, uno de algodón de 68 a 75 por ciento de madurez, el otro de 81 a 86 por ciento de madurez. Hubo una diferencia del 65 por ciento entre los dos velos. La diferencia de botones disminuyó en la elaboración adicional.

Página 171

Prensa Hidráulica de Pacas a Nivel del Piso. La sala de telas de una gran fábrica de Georgia ha sido construída sobre el suelo mismo. Una prensa del tipo de barra de tiro, de doble ariete, fué instalada con el mecanismo montado en su parte superior. Las ventajas obtenidas de la empacadora al ras del piso son pacas que son más uniformes, que proporcionan producción más rápida, que contienen mayor cantidad de yardas y que son atadas más fácilmente.

Page 165

De l'usage des graphiques dans les tissages. Lorsqu'ils sont bien faite les "graphes" peuvent être d'une aide réelle aux chefs de salles de tissage et à leurs adjoints. Grâce à eux un système de contrôles permanents peut être établi, le rendement des équipes peut être comparé, les causes de rendement insuffisants déterminées et un excès de "second choix" peut être réduit. Un certains nombre de graphiques employés dans une usine est illustré et décrit.

Page 169

La degré de maturité du coton influence le pourcentage de boutons. Il résulte d'essais faits par une usine pour déterminer l'effet qu'a le degré de maturité du coton sur le pourcentage de boutons qu'une différence de 10% dans la maturité entraîne une différence de 50% dans le nombre des boutons. On employa deux cotons, l'un d'une maturité de 68%-75%, l'autre d'une maturité de 81%-86%. Résultat: un voile de carde ayant 65% de plus de boutons que l'autre. Cette différence diminua au cours des traitements subséquents.

Page 171

Presses hydrauliques installées au niveau des salles. La salle des tissus d'une importante usine de la Géorgie est établie à même le sol. On installa une presse dont le système de doubles pistons fut monté au sommet de la machine. Ces presses à même le sol produisent des balles plus uniformes, donne une plus grande production. Il en résulte plus de métrage combiné à plus de facilité dans le cerclage.

Seite 165

Tabellen und graphische Darstellungen helfen in der Websaalkontrolle. Tabellen und graphische Darstellungen, richtig gemacht und von Aufsehern und Gehilfen richtig angewendet, sind wertvolle Erzeugungsbehelfe. Durch ihren Gebrauch koennen leicht Aufzeichnungen gehalten und Leistungen der Schichten verglichen, die Ursachen fuer niedrige Produktion bestimmt und absonderlich viel Sekundaware vermieden werden. Es werden Arten von Tabellen, wie sie in einer Fabrik verwendet werden, beschrieben und abgebildet.

Seite 169

Baumwollreife beeinflusst Noppenbildung. Ein in einer Fabrik gemachtes Experiment, um die Einwirkung der Baumwollreife auf Noppenbildung festzustellen, ergab, dass eine 10%ige Differenz in Reife zwischen 2 Baumwollsorten, ungefaehr 50% Unterschied in Noppen ergibt. Es wurden Noppen in Kardenflor von 2 Baumwollesorten gemacht, und zwar von 68 bis 75%iger und 81 bis 86%iger Reife. Noppen in diesen beiden Flors zeigten einen Unterschied von 65%. Der Noppenunterschied verminderte sich in der weiteren Verarbeitung.

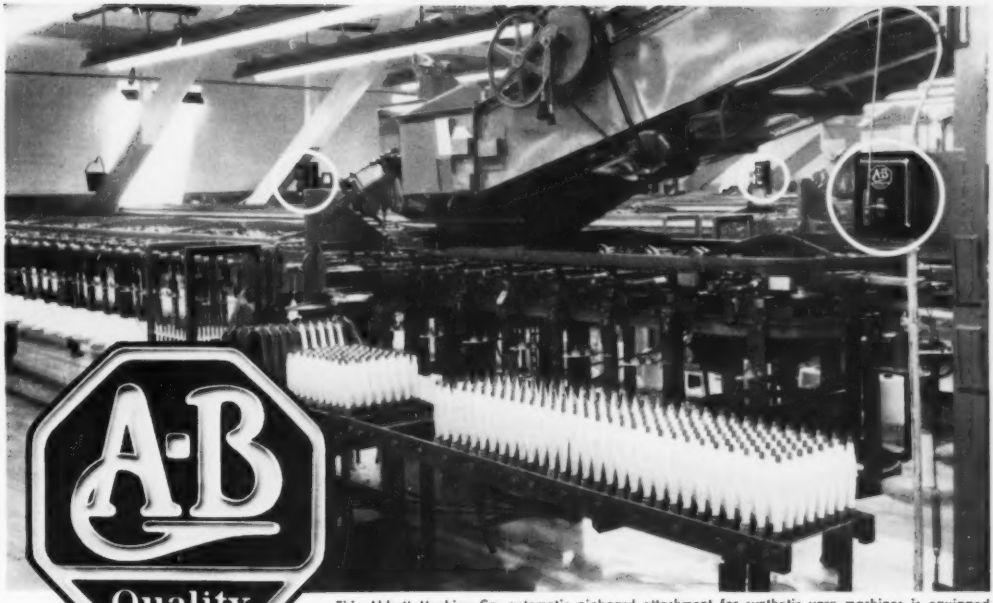
Seite 171

Mit dem Boden gleichgestellte hydraulische Presse. Der Stoffaufbewahrungsraum einer grossen Fabrik in Georgia ist zu ebener Erde gebaut. Eine Zugstangentyp-Presse mit doppelten Presskolben mit dem Mechanismus oben, wurde installiert. Vorteile der mit dem Boden gleichgestellten Presse sind: einheitliche Ballen, die rascher zu machen sind, groessere Metragen enthalten und leichter geschlossen werden koennen.

Anuncio: La nueva guarnición de carda de la Benjamin Booth Co. ahorra tiempo, dinero y trabajo. Véase la página 150.

Annonce: La nouvelle garniture de cardes fabriquée par Benjamin Booth Company permet de réaliser des économies de temps, de main d'oeuvre et d'argent. Voyez page 150.

Annoncen: Benjamin Booth Co.'s neuer Kratzenbelag spart Zeit, Geld, Arbeit. Siehe Seite 150.



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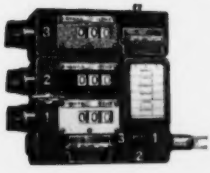
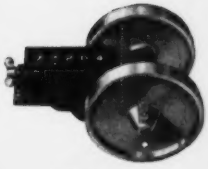

2-3 Hank Counter

2-3 Knitting Machine Counter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